

Three to Five Years -Early Childhood- Foundations

ENGLISH/LANGUAGE ARTS
THREE TO FIVE

ENGLISH/LANGUAGE ARTS
THREE TO FIVE

ENGLISH/LANGUAGE ARTS
THREE TO FIVE

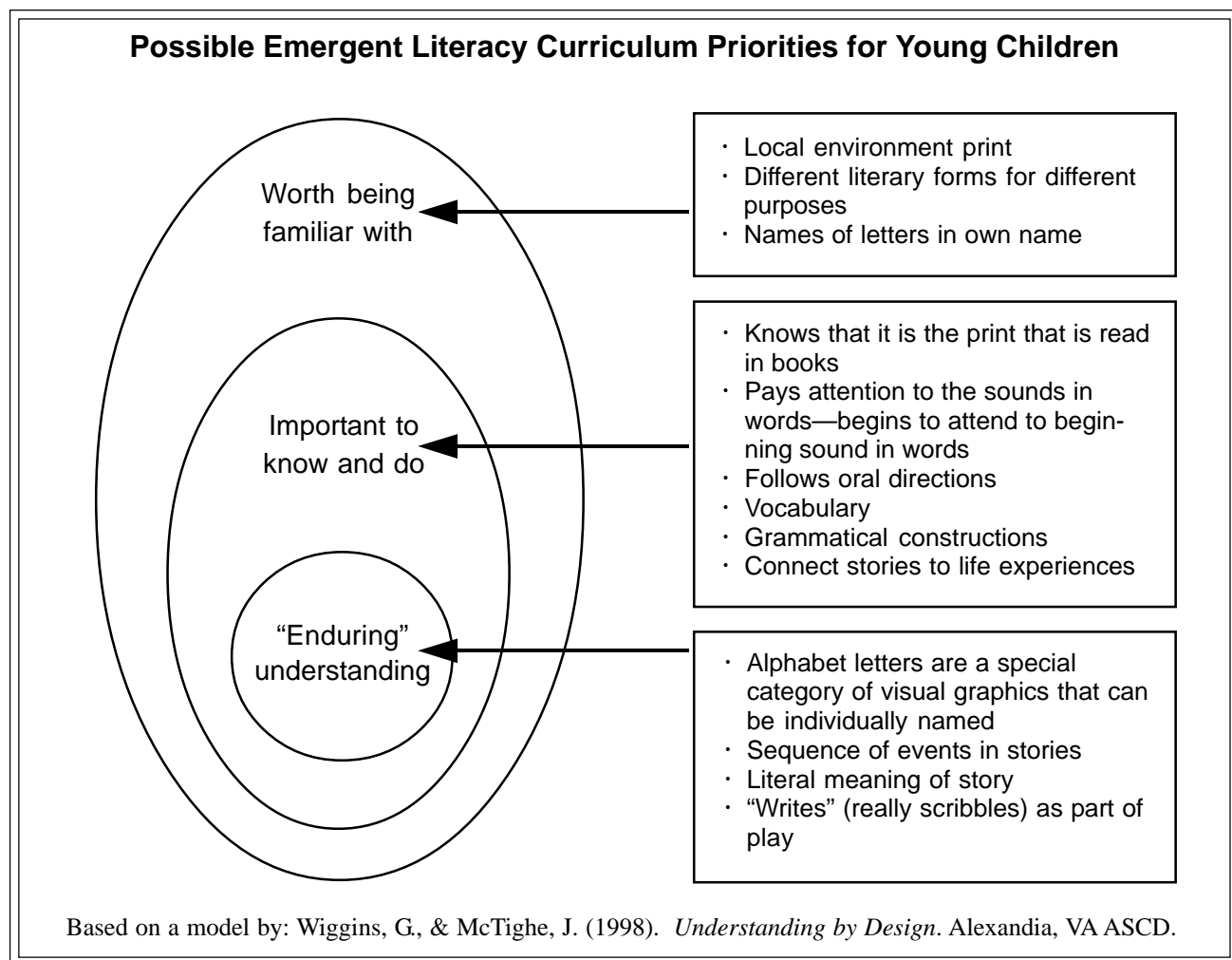
FOUNDATIONS FOR ENGLISH/LANGUAGE ARTS

Children are language learners from the first days of life, when babies begin to experiment with sounds. Learning their native language is the most important task the child accomplishes in becoming a functioning human being. In our modern society, gaining the ability to extend spoken language into reading and writing is even more essential than in previous generations. We must do everything we can to assure every child becomes literate.

Recent research has extended our understanding of how and when language is acquired and the critical importance of the early years. We have also gained a heightened appreciation of the adult's role in the success—or failure—of a child in becoming literate. It is of utmost importance that we as parents, teachers, and caregivers of young children gain an appreciation of the role we play as models and teachers of the language arts: speaking, listening, writing, and reading.

The following sections will outline major areas of language learning, how we might expect to see children ages three to five exercising their emerging language skills, and how adults and older children can support and extend the natural interest and internal drive of children to learn language.

A cautionary note: The following sections apply to a wide age range and acknowledge that children grow and develop at widely different paces.



KEY FINDINGS

- ◆ **Adults who live and interact regularly with children can profoundly influence the quality and quantity of their literacy experiences.**
[National Research Council, 1998]
- ◆ **Reading and writing for meaning are paramount.**
[Ministry of Education, 1996; International Reading Association (IRA)/National Association for the Education of Young People (NAEYC), 1998; Bredekamp, S. & Copple, C., (Eds.), 1997; National Research Council, 1999]
- ◆ **Writing should have purpose, meaning, and an audience.**
[Ministry of Education, 1996; McCarrier, A. Pinnell, G., & Fountas, I., 2000; International Reading Association (IRA)/National Association for the Education of Young People (NAEYC), 1998; National Research Council, 1999]
- ◆ **Reading and writing are inseparable processes.**
[Ministry of Education, 1996; McCarrier, A. Pinnell, G., & Fountas, I., 2000; National Research Council, 1999]
- ◆ **Children learn to read and write by reading and writing many different kinds of text.**
[Ministry of Education, 1996; McCarrier, A. Pinnell, G., & Fountas, I., 2000; International Reading Association (IRA)/National Association for the Education of Young People (NAEYC), 1998]
- ◆ **Good first teaching is essential for continuing success in reading and writing.**
[Ministry of Education, 1996; International Reading Association (IRA)/National Association for the Education of Young People (NAEYC) 1998; Bredekamp, S. & Copple, C., (Eds.), 1997; National Research Council, 1999]
- ◆ **Reading, writing, speaking, listening, and thinking develop simultaneously as learners grow into literacy.**
[McCarrier, A. Pinnell, G., & Fountas, I., 2000; International Reading Association (IRA)/National Association for the Education of Young People (NAEYC) 1998; National Research Council, 1999]
- ◆ **Speaking and listening are the foundation skills for reading and writing.**
[National Center on Education and the Economy, 2001]
- ◆ **A strong basis in a first language promotes school achievement in a second language.**
[Neuman, S.B., Copple, C., & Bredekamp, S., (Eds.), 1999]

ENGLISH/LANGUAGE ARTS FOUNDATION 1

F.1 - READING: Word Recognition, Fluency, and Vocabulary Development

Concepts About Print

Beginning readers must first recognize that print carries a message or a concept. Young children may begin 'reading' by pointing to the pictures and talking about them. Later, they will begin to put the pictures together to tell a story. Print awareness occurs when a child attempts to attend to the print while 'reading.' Print awareness is a major predictor of a child's future reading achievement and serves as the foundation upon which phonological and conceptual skills are built.

Young children are learning when they:

- F.1.1 Pretend to read a book.
- F.1.2 Turn one page at a time.
- F.1.3 Name objects from a picture book.
- F.1.4 Hold book right side up, looking at pages and pictures.
- F.1.5 Turn pages from front to back.
- F.1.6 Identify five common signs or symbols.
- F.1.7 Tell something that a favorite character does in a story.
- F.1.8 Follow printed words as a story is read or caption as a video is played.
- F.1.9 Distinguish print from pictures.
- F.1.10 Tell a story while holding a book.
- F.1.11 Read own writing (e.g., gives meaning to own writing by "reading what it says").
- F.1.12 Name 13 uppercase letters.
- F.1.13 Point to and name six letters.
- F.1.14 Watch and listen to a story to completion or for ten or more minutes.

A child can be supported by an adult who:

- Provides the child with a wide range of books and appropriate printed materials.
- Points out print common in the child's environment: storefronts, trucks, billboards, signs, tags, food, coins, cans, etc.
- Models reading and writing for different purposes.
- Reads to child daily in such a way that the child can examine the pictures, discuss all aspects of meaning, and become aware of the format of print.
- Encourages child to discuss what has been read.
- Reads a book many times and points out repeated words and length of words and their sounds.
- Points out individual letters and names them as the opportunity arises.

How it looks in everyday activities:

Building concepts about print

Yakiko, Laura, and Maria are playing school at Maria's house. Maria says, "I'll be the teacher and you are the kids". She tells the other girls where to sit, and then she sits in front of her friends and pretends to read a familiar story. Maria holds the book right side up and facing Yakiko and Laura as she has often seen the lady at the library do during story time. She runs her finger across the words as she retells the story from memory.

Maria's mother, Mrs. Castellanos, peeks in and smiles as she notices that the girls are playing school. When the book is done, she asks, "What else do you do at school?" The girls answer that they color and write at school, so Mrs. Castellanos brings materials including markers, paper, scissors, tape, and more books.

Yakiko and Maria draw pictures and put the pages together to make their own books. Mrs. Castellanos notices that Laura lags behind, seeming unsure about what to do first. She asks questions about the characters and events in the story. These questions help Laura organize her ideas and soon her book is taking shape. As Laura starts to work, Mrs. Castellanos says, "Maybe you can each take a turn reading your books when you are done." The girls smile and shout their agreement.

Development of a skill in one area is related to and influences other developmental areas:

Social/Emotional:

- Demonstrates comfort with self, own skills, and abilities.
- Plays and works cooperatively.

Cognitive:

- Recognizes the association between spoken and written words.
- Assumes a pretend role in make-believe play.

Physical:

- Develops fine motor control using writing and drawing tools.

Self-help:

- Gains ability to be self-directed.
- Uses materials purposely.

Communication/Literacy:

- Speaks clearly enough to be understood by peers and adults.
- Listens with interest to stories read aloud.
- Shows an interest in reading-related activities.

ENGLISH/LANGUAGE ARTS FOUNDATION 1

F.1 - READING: Word Recognition, Fluency, and Vocabulary Development (cont.)

Phonological Awareness

Phonological awareness is an “ear” skill. It is the ability to hear and manipulate the sounds of words, recognize that speech is composed of sounds, that some words rhyme, and that sounds can be manipulated. This is a foundation for phonemic awareness. Phonemic awareness is the ability to recognize the smallest units of sounds in words (the word pink begins with the sound /p/).

Learning to read requires that children have considerable awareness of the sound structure of spoken language. Few young children acquire phonemic awareness unless teachers and other adults take the opportunity to draw attention to the sounds and phonemes of spoken words.

Young children are learning when they:

- F.1.15 Match the sound that begins own name with the sound that begins another word or name.
- F.1.16 Identify first letter of own name.
- F.1.17 Generate sounds from letters.
- F.1.18 Recognize that words that look alike may sound alike.
- F.1.19 Imitate simple rhymes.
- F.1.20 Sing the alphabet song.
- F.1.21 Recite/sing one rhyme or song.
- F.1.22 Generate and blend the sounds of letter patterns into recognizable words.
- F.1.23 Clap out syllables in word songs.

A child can be supported by an adult who:

- Provides opportunities for the child to experiment and play with the sounds words make through songs, rhymes, nonsense words, alliterations, and music (e.g., clapping out the syllables of names or words with their cadence).
- When reading familiar rhymes, stops before a rhyming word and encourages the child to fill in the rhyme.
- Provides an environment which includes rhythm instruments, children’s music and movement tapes, and a center where children may listen to a variety of story and sound tapes.
- Supports the child’s early attempts to write, as a way to focus on the sounds that make up the words.

How it looks in everyday activities:

Using names to build phonological awareness

During circle time, preschool teacher Mr. Jeffers says, “Boys and girls, let’s see whose name begins with the same sound as mine, Jeffers.” He exaggerates the “J” sound so the students can hear it and shows a card with the letter “J” printed on it as he talks. Mr. Jeffers starts with Jamal, saying “Jamal. Jeffers. Does Jamal’s name start with the same sound as Jeffers?” Several students shout out “Yes” but others seem unsure. Mr. Jeffers sees some students talking together and hears others repeating “Jamal” to themselves as they think about the answer. To encourage more students to participate, Mr. Jeffers says, “Show thumbs up if you think that Jamal’s name starts with the same sound as Jeffers.”

While Mr. Jeffers talks, Linda, an interpreter who helps Sarah, signs his words. Sarah attends closely to Linda, imitating the sign for “J” and raising a “thumbs up” along with her classmates. Linda smiles when she notices some of the hearing children are signing “J” as well.

Mr. Jeffers goes around the room saying each student’s name, followed by his own. The students answer each time until they find all of the children whose names have the same beginning sound as Jeffers.

Development of a skill in one area is related to and influences other developmental areas:

Social/Emotional:

- Participates in group activities.

Cognitive:

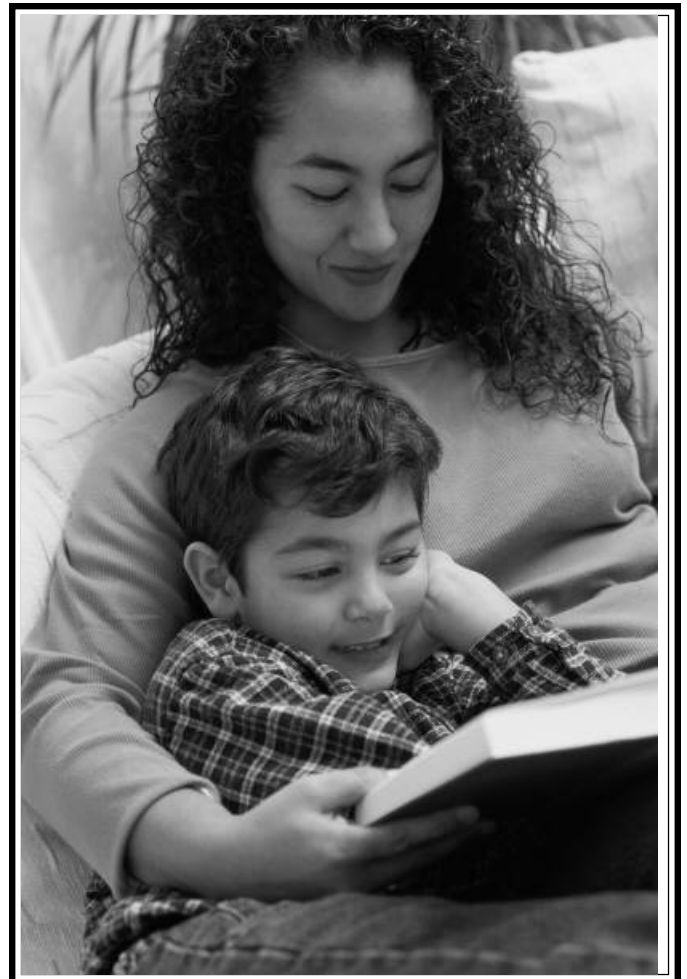
- Learns to identify matching beginning sounds.
- Connects a letter with its beginning sound.

Physical:

- Engages in small motor movement.

Communication/Literacy:

- Begins to recognize consonant sounds and words beginning with the same sound.



ENGLISH/LANGUAGE ARTS FOUNDATION 1

F.1 - READING: Word Recognition, Fluency, and Vocabulary Development (cont.)

Decoding and Word Recognition

Decoding and word recognition begin when a child understands that there is a relationship between letters and sounds, and that letters put together form words. Adults have a critical role in discerning when experiences with language and reading prepare a child to enter into another level of literacy development. Adults also create and utilize the “teachable moments” when the child begins to see how letters form words. The most important thing that adults do is observe and listen to the child and provide the experiences needed to move to the next level of decoding skills.

Young children are learning when they:

- F.1.24 Recognize own name in isolated print.
- F.1.25 Match the sound that begins own name with the sound that begins another word or name.
- F.1.26 Match like letters.
- F.1.27 Match the same letter in different styles (e.g., signs, books, newspaper).
- F.1.28 Generate and blend the sounds of letter patterns into recognizable words.
- F.1.29 Recognize that words that look alike may sound alike.
- F.1.30 Identify five common signs or symbols.
- F.1.31 Point to words in a book while telling a story.
- F.1.32 Point to a title of a book.
- F.1.33 Match upper to lower case letters.
- F.1.34 Put letter shapes or tiles in alphabetical order.

A child can be supported by an adult who:

- Demonstrates the written form of the child’s name throughout the environment.
- Draws attention to letters and words and their relationship.
- Reads alphabet books.
- Matches sounds with printed letters, beginning with the letters found in the child’s name or other familiar words.
- Encourages the child to figure out the meaning of the print using the repertoire of known letters and cues and challenges him to be a “print detective”.
- Helps the child decipher the similarities and differences in letter formation.
- Helps the child explore different styles and ways letters and words are written (e.g., *Sam*, **Sam**).
- Draws attention to the relationship between words and pictures.
- Demonstrates that letters grouped together make words by pointing to the words as they read or write a story, a label, a letter, and a sign.

How it looks in everyday activities:

Decoding and word recognition

Each month, Mrs. Garcia, the preschool teacher, cuts out paper shapes and prints each student's name on the shape. These shapes will be on a table each morning when the students enter the classroom. Each student locates their own name and pins their shape on the board. This activity helps the children build recognition of their own and other's names. For October, Mrs. Garcia chooses a ghost shape.

Mrs. Garcia held up one shape and said, "What does this look like?" The students eagerly raise their hands to answer. "Does anyone know whose name is on this ghost?" she asks. Several children raise their hands, and Mrs. Garcia then lets each child find their own name.

The teaching assistant, Ping, passes out glue sticks and with Mrs. Garcia helps the children trace over their names on the ghosts. Some of the children say the letter names and sounds as they trace. Cameron and Tristin have trouble controlling their fine motor movements, so they are helped with a hand over hand strategy. Next Ping provides colored sand to pour over the glue. Mrs. Garcia encourages the students to touch the sand and feel the shape of the letters in their names.

Development of a skill in one area is related to and influences other developmental areas:

Social/Emotional:

- Participates in group activities.
- Follows simple rules and directions.

Cognitive:

- Follows directions that involve a sequence of actions.
- Copies and traces own name.
- Differentiates between letters.

Physical:

- Uses eye-hand coordination to perform fine motor tasks.
- Manipulates tools using fine motor skills (glue stick, glitter).

Self-help:

- Learns to recognize name and that of peers; an important step in independence for children.

Communication/Literacy:

- Understands that letters are grouped together to form names.
- Understands words have meaning.
- Begins to recognize name in print.
- Begins to differentiate between different names (words).

ENGLISH/LANGUAGE ARTS FOUNDATION 1

F.1 - READING: Word Recognition, Fluency, and Vocabulary Development (cont.)

Vocabulary and Concept Development

The young child who has experienced both quality and quantity of talking and conversations and has had the opportunity to build an extensive vocabulary, is a child poised for success in early literacy learning. The best preparation in the early years for success in reading is to expose the child to a broad range of experiences and to anticipate, participate, and recall what is experienced with as much verbal and written language as the child is developmentally able to absorb. The more the child enters into the exchange of information around what is seen, heard, and experienced, the better able the child is to acquire the concepts and language that contribute to learning to read.

Young children are learning when they:

- F.1.35 Name objects from picture books.
- F.1.36 Name sounds heard in familiar environment.
- F.1.37 Ask and answer simple questions about a story being read.
- F.1.38 Ask adult to read printed information.
- F.1.39 Talk about action pictures of family, pets, or self.
- F.1.40 Tell one thing that happens in a familiar story.
- F.1.41 Tell simple story from pictures and books.
- F.1.42 Pretend to do something or be someone.
- F.1.43 Use new vocabulary learned from experiences.
- F.1.44 Act out familiar, scripted events and routines.

A child can be supported by an adult who:

- Sets aside a regular talk time to have a conversation about the child's life.
- During daily routines, like reading and eating, takes time to talk with the child.
- Watches a TV program with the child and talks with them about it.
- Reinforces and extends the child's vocabulary usage. (e.g., Child: "There's a dog out there." Adult: "You're right, there is a big, black dog in our back yard.")
- Lets the child control the subject of the conversation and encourages efforts to use new words.
- Reads with the child in a way that makes the child become an active participant by asking the child to respond to questions about the story and the pictures.
- Encourages and models verbal interaction with other children and adults. (ELL)
- Talks with the child about trips to libraries, museums, movies, and parks.

How it looks in everyday activities:

Developing vocabulary and concepts

Miguel and his grandfather, Abuelo Luis, are enjoying a walk through a local park. Abuelo Luis says in Spanish, “Miguel, look! A bird’s nest.” Miguel is interested in the nest, which is in a small tree. He asks if he can see the chicken that lives in the nest. Abuelo Luis laughs kindly and then explains that chickens do not have nests in trees. He tells Miguel that different birds have different kinds of nests. As they peer into the nest, Miguel and Abuelo Luis see that the eggs are blue. Abuelo Luis sees a robin in another nearby tree and points her out to Miguel. He explains that the eggs belong to the robin, using both Spanish and English words.

Miguel and his grandfather continue their walk. When a cardinal flies by, Miguel asks, “It is a red robin?” Abuelo Luis smiles and explains that there are many different kinds of birds with different colors, shapes, and nests. He asks Miguel if he would like to visit the library to learn more about different birds.

Development of a skill in one area is related to and influences other developmental areas:

Social/Emotional:

- Interacts easily with familiar adults.
- Bonds with grandfather through conversation and exploration.
- Enjoys and appreciates nature.

Cognitive:

- Learns new words and concepts with real life observations and experiences.
- Learns the new words in primary language as well as in English.

Physical:

- Moves with balance and control to perform large motor tasks (walking).

Self-help:

- Learns the library can be utilized as a resource to find more information about a concept.

Communication/Literacy:

- Develops communication abilities through conversation in primary and secondary languages.
- Uses language for a variety of purposes.
- Begins to use information books to learn more about a topic.

ENGLISH/LANGUAGE ARTS FOUNDATION 2

F.2 - READING: Reading Comprehension

Structural Features of Informational and Technical Materials

In building a foundation for reading and understanding a variety of materials, young children need experiences with language and a variety of reading materials. They need to see adults obtaining and using information from many different printed sources: recipes, manuals, newspapers, Websites, books, encyclopedias, and many others. Young children learn that books and technical materials are a major source of needed and useful information. They also begin to recognize the different formats in which informational materials come.

Young children are learning when they:

- F.2.1 Identify a favorite story.
- F.2.2 Request or select a story by the title of the book.
- F.2.3 Tell simple stories from pictures and books.
- F.2.4 Express what might happen after the action in a picture.
- F.2.5 Tell one thing that happens in a familiar story.
- F.2.6 Use personal experiences to answer questions about stories.
- F.2.7 Follow pages that accompany a story on audiotape or CD.
- F.2.8 Identify the beginning, middle, and end of the story.

A child can be supported by an adult who:

- Models finding, organizing, and using information from books and other technical materials.
- Observes the child's interests and supports this through books, audiotapes, videotapes, and other materials.
- Takes the child to the library and introduces the child to how and where materials are located and used.
- Provides books, computers, tapes, and music related to the interests of the child.
- Learns to select software and Internet Websites that are appropriate for young children.

How it looks in everyday activities:

Building awareness of reading and technical materials being a source of information

During outdoor play time, Miss Foster noticed that the boys and girls in her four-year old class were spending more and more time watching a work crew. Curious, she walked over to see the workers were using large, interesting equipment to dig a trench and install new telephone cable. “Look!” shouted Marta, pointing at a worker operating a large yellow machine “He’s digging to China.”

“No he isn’t,” countered her best friend Serena. “You can’t dig to China.”

“Then what’s he doing?” Marta wondered, looking at Miss Foster.

Miss Foster said, “I think he is putting in a cable.” At this the boys and girls had many questions, comments, and ideas about what the workers were doing. Miss Foster listened and helped steer the conversation with careful questions, such as “I wonder if the cable they are laying is for telephone, or television, or for electricity?”

When it was time to go back inside, Miss Foster reminded the boys and girls about some books they had used before to find out how things work. With her help, the children found some information about telephones and cables. After reading the information in the books, the children had even more questions. Miss Foster asked, “Where else can we learn about telephones?” Steven shouted, “Ask my mommy!” Miss Foster knew that Steven’s mom worked for a phone company, so she made a mental note to ask her for some old phones the children could examine and take apart later.

“Great idea” Miss Foster said, “Moms and Dads know lots of things. What else can we do?” Marta said, “My Mommy gets books from the library,” and Serena added, “Daddy gets stuff from the computer.” Miss Foster knew that Internet information would likely be too detailed for her four-year olds. However, she decided to download some pages from the Internet anyway, because doing so would help the children see the many ways that we have to learn about interesting things. The children watched as she searched for sites, helped her choose a site to review, and then looked at the pages about telephones.

Development of a skill in one area is related to and influences other developmental areas:

Social/Emotional:

- Observes and learns with others.
- Explores and finds new information.

Cognitive:

- Learns new words and concepts with real life observations and experiences.
- Asks questions to discover more information.

Self-help:

- Learns the library and Internet can be utilized as a resource to find more information about a concept.

Communication/Literacy:

- Develops communication abilities through conversation.
- Uses language for a variety of purposes.
- Begins to use information books and the Internet to learn more about a topic.

ENGLISH/LANGUAGE ARTS FOUNDATION 3

F.3 - READING: Literary Response and Analysis

Emergent Literacy with Appropriate Books and Stories

Young children need to be exposed to many types of books and stories to help them develop the habit of reading as lifelong learning. Children love the intimacy of reading with an adult. Teachers, parents, and caregivers should find time daily to read with every child.

Young children are learning when they:

- F.3.1 Find named pictures or textures in book.
- F.3.2 Actively look for or keep attending to things that an adult points to, shows, or talks about.
- F.3.3 Watch and listen to a story to completion or for ten minutes or more.
- F.3.4 Ask adult to read printed information.
- F.3.5 Ask questions and make comments about a story being read.
- F.3.6 Use personal information to answer questions about a story.
- F.3.7 Tell something that a favorite character does in a story.
- F.3.8 Describe a picture in a book.
- F.3.9 Hold a book right side up, looking at pages and pictures.
- F.3.10 Turn pages from front to back.
- F.3.11 Follow reader's finger as a story is read.
- F.3.12 Tell a story while holding a book.
- F.3.13 Talk about the cover and illustrations prior to the story being read.
- F.3.14 Request or select a story by the title.
- F.3.15 Identify a favorite story.
- F.3.16 Act out familiar, scripted events and routines.
- F.3.17 Identify a location where he/she is going or has been.
- F.3.18 Identify a location of a caregiver if not present.
- F.3.19 Recognize print in media other than a book.
- F.3.20 Identify two characters that interact in a story.
- F.3.21 Recall if something truly happened.

A child can be supported by an adult who:

- Reads to and with the child daily.
- Reads and rereads predictable texts to the child.
- Exposes the child to a variety of books by visiting the library, bookstores, or joining a book club.
- Provides many types of reading material, including information books, stories, poetry, alphabet and counting books, and wordless picture books.
- Maintains a comfortable, cozy place where the child can read alone, with the adult, or with a friend.
- While reading with the child, asks questions to help initiate thinking about the plot and characters.
- Provides opportunities for the child to respond to stories in a variety of ways (e.g., acting, talking, dancing, creating a picture).
- Shares many different types of literature with the child and discusses the main parts (characters, setting, etc.).
- Includes non-English books and stories to help support a child whose first language is not English.

How it looks in everyday activities:

Supporting emerging literacy skills

Using the picture walk technique, Mrs. Smith introduces *The Three Little Pigs* by Paul Galdone to her preschool class. She sits with the students and discusses the cover and each illustration one at a time. The students talk about what they see in the pictures and predict what might happen next. April hides her eyes whenever the wolf is in the picture, but Mack and Carlos cheer for the wolf. Mack suggests that the wolf might eat the pigs! After all of the pictures have been reviewed, Mrs. Smith reads the entire story. She encourages the students to talk about the story and whether they guessed right about what would happen. April says, “See? The pigs win!” “Yeah, I guess” says Mack, a little disappointed.

Mrs. Smith helps the children name and talk about the important parts of the story. Working together, the boys and girls draw their own pictures to go with the story parts. April likes drawing the pigs, and Carlos and Mack draw the wolf with many teeth. Mrs. Smith writes down the children’s ideas about what is happening in their pictures, using another strategy called shared writing. April and some other students work with Mrs. Smith to arrange the pictures into a sequence and to read their version of the story. During free time later that day, several children act out the story using their pictures as a script.

Development of a skill in one area is related to and influences other developmental areas:

Social/Emotional:

- Participates in group experiences.
- Recognizes the phenomena of learning from others.

Cognitive:

- Identifies the main parts of a story in sequence.
- Develops an understanding that print has meaning.

Physical:

- Uses small motor skills to draw pictures.
- Uses gross motor skills in the reenactment of the story.

Communication/Literacy:

- Begins to understand story structure.
- Retells information from a story.
- Communicates ideas verbally to others.
- Guesses what will happen next in a story using pictures as a guide.

ENGLISH/LANGUAGE ARTS FOUNDATION 4

F.4 - WRITING: Writing Process

Organization and Focus

Various components of literacy, including writing, develop early in life in an interrelated manner. Children who see themselves as readers and writers engage in a variety of literacy-related behaviors. Early attempts and approximations at standard writing (often viewed as “just scribbles” by adults) are legitimate elements of literacy development. Children’s acquisition of writing typically follows general developmental stages, and individual children will become writers at different rates and through a variety of activities. Learning to write involves much more than learning to form alphabet letters. It involves understanding:

- *The level of speech alphabet letters represent.*
- *The ways in which print is organized on a page.*
- *The purposes for which writing is used.*
- *The various conventions associated with various purposes.*
- *That the writer must think about the reader’s reaction to the writing. (Schickedanz, 1999)*

Access to writing materials and adults who give encouragement and positive feedback are critical to children experimenting with and gaining facility in writing. Early writing experiences foster the development of key aspects of literacy such as print awareness, functions of print, and phonological awareness in young children.

Young children are learning when they:

- F.4.1 Draw pictures and scribble to generate and express ideas.
- F.4.2 Follow dictated writing read by an adult.
- F.4.3 Associate writing with words.
- F.4.4 Give writing to someone as a means of communicating.
- F.4.5 Draw at the top or bottom of the page, when requested.
- F.4.6 Position paper for writing.
- F.4.7 Write from left to right.
- F.4.8 Write using pictures, letters, and words.
- F.4.9 Use writing or symbols to share an idea with someone.
- F.4.10 Use known letters or approximations of letters to represent written language.
- F.4.11 Read own writing (e.g., give meaning to own writing by “reading what it says”).
- F.4.12 Dictate something for an adult to write down.

A child can be supported by an adult who:

- Models and discusses writing conventions: left to right, top to bottom.
- Provides the child with access to a variety of writing materials (alphabet blocks, magnetic letters, pencils, crayons, chalk, paint, rubber stamps).
- Provides daily opportunities for children to “write” at their developmental level.
- Exposes the child to a wide selection of children’s literature through multiple daily read-alouds.
- Models the writing process through adult-led **language experience** (adult records the child’s exact words).
- Models the writing process through **shared writing** (adult acts as a scribe, but more emphasis is placed on the composing process and constructing a text the children can read later).
- Models the writing process through **interactive writing** (children actively compose together, considering appropriate words, phrases, organization of text, and layout. At points selected by the adult, individual children take over or “share the pen”).
- Prompts the child to talk about their writing (picture(s), scribbling, letter approximations, etc.).
- Prompts the child to “tell me more” to encourage extensions of the child’s original writing.

How it looks in everyday activities:

Integrating oral language, writing, and reading

When Isabel arrives to spend the day at the Lewis family child care home, she hears the news that the Lewis' cat has new kittens. Excited, she repeats Mrs. Lewis' rule: "We can look but can't touch the new baby kitties" as the other children arrive. Carter, who has limited verbal language, participates by pointing and saying "cat." Mrs. Lewis expands Carter's statement, saying, "You see the little cats." After everyone has had a chance to look at the kittens, Mrs. Lewis tells the children that the kittens and their mommy need to rest. The children reluctantly agree, continuing to talk about the kittens throughout the morning, asking many questions and sharing their ideas and thoughts about cats and baby animals.

Isabel says, "Can we write about the kitties in our Big Book?" Mrs. Lewis agrees and brings out the big paper she uses when the children want to record special events. She writes a title for the story: "Tabby Has a New Family." The children are eager to tell about the kittens, and Mrs. Lewis helps them to take turns talking. She writes down their ideas with few changes, using their own words as much as possible. When his turn comes, Carter says, "Little cat" and Mrs. Lewis writes "Carter likes the little cats." As the suggestions dwindle, Mrs. Lewis reads the story back, and the children make a few changes and additions. The children move on to other activities, except for Isabel and Carter who remain interested in the kittens. Mrs. Lewis says, "I have some markers. Would you like to make some pictures to go with your story?" Isabel looks at Carter and says "Let's make a striped kitty" and Carter nods his head in agreement.

Development of a skill in one area is related to and influences other developmental areas:

Social/Emotional:

- Experiences a real life situation and relates it to own family and life experiences.

Cognitive:

- Integrates and/or reinforces the concepts of oral and written language.

Physical:

- Uses writing and drawing tools with increasing control and intention.

Self-help:

- Learns that new, young life is fragile and needs protection.

Language/Literacy:

- Learns that thoughts, observations, and feelings can be set down in a written record that can be read and reread.
- Realizes that the written word remains the same.
- Recognizes print has meaning.

ENGLISH/LANGUAGE ARTS FOUNDATION 5

F.5 - WRITING: Writing Application

Different Types of Writing and Their Characteristics

Young children extend their acquisition of literacy into writing much as they did learning to talk: by seeing it used by the adults and older children in their lives and by using, initially, rudimentary forms of writing. Children need to experience the writing of oral language into symbols and the decoding of written language into speech in many different contexts and for many different purposes. They also need to see themselves and others engaging in this process in ordinary daily activities. Adults need to accept their early attempts as valid expressions.

Young children are learning then they:

- F.5.1 Associate writing with words.
- F.5.2 Add writing to a picture story.
- F.5.3 Use writing to label drawings.
- F.5.4 Draw name or a message on a card or picture.
- F.5.5 Give writing to someone as a means of communication.
- F.5.6 Scribble a message on a card or picture.
- F.5.7 Use writing or symbols to share an idea with someone.
- F.5.8 Write more than word correctly.
- F.5.9 Represent action with drawing.
- F.5.10 Follow printed words as a story is read or caption as a video is played.

A child can be supported by an adult who:

- Writes daily for specific purposes (lists, letters, messages) and discusses purposes with the child.
- Provides opportunities for the child to put his/her thoughts on paper by writing the words the child dictates to them.
- Transcribes the child's words and takes the opportunity to demonstrate ordinary conventions like: top to bottom; left to write; spaces between words; upper and lower case letters.
- Writes, displays, and points out the child's name often.
- Labels some of the important things in the child's universe.
- Uses observational assessment of children's progress and examination of children's writing to guide future activities.

How it looks in everyday activities:

Supporting the use of different types of writing

Ricardo, Gwen, and Pablo are playing in the housekeeping center in the Head Start classroom. Gwen's first language is English, and Ricardo and Pablo are fluent Spanish speakers and English language learners. Their teacher, Ms. Brenda, has provided many interesting props to support their use of writing in this play. For example, the children find a written poster menu with Spanish and English labels, pictures of many food choices with costs, paper and pencils for order taking, play money, and pretend food.

Gwen says she wants to be a waiter. Pablo tells Ricardo he will be the cook and so Ricardo decides to be a customer. Gwen shows Ricardo a menu and says, "What do you want?" Ricardo replies in Spanish, pointing to the pictures as he does so. As Ricardo shows that he wants hamburger, fries, and ice cream, Gwen imitates waiters she has seen when visiting restaurants with her parents by scribbling letters and shapes on a pad of paper. Then she says, "Coming up!" and hands the paper with the "order" to Pablo. She points to her writing, saying "He wants hamburger, fries, and ice cream".

Pablo puts the pretend food on the plate and gives it to Gwen, who returns to her customer. Gwen lays the order paper on the table and says, "This is your bill." Ricardo looks at the paper and then gives Gwen some play money. After giving Ricardo some change, Gwen shouts to some friends across the way, "Who else wants to eat?"

Development of a skill in one area is related to and influences other developmental areas:

Social/Emotional:

- Engages in conversation through their dramatic play.
- Role-plays an everyday social situation.

Cognitive:

- Uses money for exchange.

Physical:

- Engages in a series of physical actions through dramatic: play.
- Uses small motor skills.

Self-help:

- Describes some people's jobs and what is required to perform the job.
- Uses money as a form of exchange.
- Recognizes primary and secondary languages are a means of communication.

Communication/Literacy:

- Uses language for a purpose.
- Recognizes print has meaning.
- Begins writing for a purpose.

ENGLISH/LANGUAGE ARTS FOUNDATION 6

F.6 - WRITING: Writing Conventions

Handwriting and Spelling

By using a knowledge of letter names and sounds and unconventional (invented) spellings, young children develop an impressive appreciation of the phonemic structure of the English language. Children gain confidence in their growing ability to translate their communication into writing if the adults in their environment are more interested in what they are trying to say, than on their use of conventional letter formation and/or spellings. Observation may reveal that the child is actually representing what she hears adults saying. Children who are learning English or who have language delays need to have their early attempts accepted and encouraged. It is better to build confidence than correctness at this stage of writing.

Young children are learning when they:

- F.6.1 Write from left to right.
- F.6.2 Combine strokes and shapes to represent letters.
- F.6.3 Copy a vertical line.
- F.6.4 Copy a horizontal line.
- F.6.5 Copy a circle.
- F.6.6 Write letters in strings.
- F.6.7 Write using phonetically spelled words.
- F.6.8 Use different combinations of letters to achieve sounds.
- F.6.9 Write more than one word correctly.
- F.6.10 Use the correct grasp of writing tool.
- F.6.11 Imitate drawing a cross.
- F.6.12 Copy a cross.
- F.6.13 Copy an “X”.
- F.6.14 Copy a square.

A child can be supported by an adult who:

- Provides many activities that foster the development of fine motor skills and strength such as finger plays, use of tools, play dough, scissors, stringing beads, lacing and manipulation of small items.
- Provides letters for the child to see, feel, and copy.
- Explores letter/sound associations with the child.
- Gives the child opportunities to use environmental print to copy when writing lists or notes.
- Gives the child opportunities to write for real purpose and explore using invented spelling.

How it looks in everyday activities:

Handwriting and spelling

Yasmina carefully chooses a red crayon as she draws a picture of herself and her father coming to school. Her teacher, Mrs. Grady, asks Yasmina to tell about her picture. Yasmina explains “It was windy when we walked to school, and I almost fell down! My Daddy helped me walk.” Mrs. Grady says, “That’s such a good story, we should write it down.” She gets lined paper and a pencil for Yasmina to use.

Yasmina starts writing her story, writing a mixture of letters, lines, and shapes, formed into several horizontal lines and using a left to right motion across the page. Mrs. Grady is pleased that Yasmina is showing some awareness of many writing conventions. She thinks about how she can support Yasmina’s interest in writing, such as by providing alphabet books, games, and puzzles.

When Yasmina’s father arrives to take her home, she happily shows him her picture and reads him her story. Mrs. Grady says, “Yasmina is doing great learning about letters and writing. Maybe she would like to show you how she can write at home.” Yasmina’s dad feels proud of her work and says on the way home, “Let’s show Mommy how you can write. Maybe you can write a note to Grandma Teresa.”

Development of a skill in one area is related to and influences other developmental areas:

Social/Emotional:

- Reflects on being together with an adult.
- Expresses the events and/or feelings of coming, parting, and being at school.
- Feels competent to engage tasks.

Cognitive:

- Reproduces the picture in her memory into a two-dimensional representation.
- Uses correct direction while writing.

Physical:

- Uses eye-hand coordination and fine-motor development to draw and write.

Self-help:

- Realizes that union and separation and anticipated reunion are a normal part of human interactions.

Communication/Literacy:

- Uses drawing and writing to express a meaningful experience.
- Demonstrates beginning movement out of initial stages of writing.

ENGLISH/LANGUAGE ARTS FOUNDATION 7

F.7 - LISTENING AND SPEAKING: Listening and Speaking Skills, Strategies, and Applications

Comprehension

Young children need an environment filled with rich language and many opportunities to hear language being used for different purposes. Talking makes children familiar with words and ideas that they need to enjoy and understand fiction and nonfiction books, including math, science, history, art, and other academic subjects that they will encounter later.

Young children are learning when they:

- F.7.1 Name sounds heard in the environment.
- F.7.2 Watch and listen to a story to completion for ten minutes or more.
- F.7.3 Stay with an adult-directed activity or story for 10-15 minutes.
- F.7.4 Follow one-step spoken directions without prompts (e.g., Get your shoe).
- F.7.5 Ask and answer simple questions.
- F.7.6 Ask questions and make comments about a story being read.
- F.7.7 Classify categories of words.
- F.7.8 Identify attributes of objects.
- F.7.9 Identify categories of objects in pictures (e.g., animals).
- F.7.10 Use new vocabulary learned from experiences.
- F.7.11 Follow commands containing two familiar attributes (e.g., Get the big, red sock).
- F.7.12 Follow two-step spoken directions with prompts.
- F.7.13 Use trial and error to solve a simple problem.
- F.7.14 Generalize a solution to a new situation.
- F.7.15 Express what might happen after the action in a picture.
- F.7.16 Imitate a series of three numbers or unrelated words.
- F.7.17 Initiate turn taking in play.

A child can be supported by an adult who:

- Makes time every day to stop and listen to the child without interruptions.
- Talks to the child in the way the child should be learning to speak.
- Talks with the child using language in a naturalistic, real-life context.
- Uses story telling to encourage the use of new and interesting words.
- Provides a wide variety of materials for the child to hold, touch, play with, and manipulate.
- Has topics to talk about (e.g., toys, books, blocks, dress-up clothing, art supplies, puppets).
- Encourages the child to share ideas and experiences to expand understanding.
- Asks many open-ended questions.
- Answers the child's questions concerning words and meanings.
- Engages the child in conversations about real experiences and events and responds to the child's verbal cues.
- Provides supportive opportunities for the child to learn "school talk."

How it looks in everyday activities:

Developing comprehension

Mrs. Smith surprises her preschool class with a new visitor: a rabbit. The children are very interested in everything about the rabbit. Mrs. Smith asks questions that help the children use different vocabulary words to describe the rabbit's color, ear and eye shape, foot size, softness, and many other characteristics. Mrs. Smith models using these new words with the rabbit and later during other lessons.

Monica is worried that the rabbit is hungry and offers to feed it part of her peanut butter sandwich. Bill says, "No, rabbits only like carrots, like Bugs Bunny!" Mrs. Smith helps the class find out that rabbits like lots of different vegetables by looking in a book about small animals. Bill wonders what rabbits drink, and says, "Let's check in the book!" When they learn that rabbits need to drink water, but not milk or juice like children, Monica says "That is like my kitty."

Each day, Mrs. Smith shows the children another way to find information about the rabbit, including reading in books and magazines and using the Internet. They are surprised to learn that some rabbits are wild and enjoy collecting information about where rabbits live and sleep. When they read on Internet that a tame rabbit needs a clean home, Monica and Bill work together to clean the rabbit's cage. The students make a schedule so that each can take a turn giving the rabbit water and food.

Development of a skill in one area is related to and influences other developmental areas:

Social/Emotional:

- Works with others to learn and exchange information.
- Uses inquiry techniques to discover and use new concepts and vocabulary.

Cognitive:

- Increases vocabulary and appropriate usage of words.
- Uses information for a practical purpose: care of the rabbit.

Physical:

- Uses sensory abilities.
- Adjusts touch and handling to the needs of the animal.

Self-help:

- Learns that animals need special food and balanced diets just as they do.

Communication/Literacy:

- Uses computer literacy, with adult support as needed, in finding more information about a topic.

ENGLISH/LANGUAGE ARTS FOUNDATION 7

7.1 - LISTENING AND SPEAKING: Listening and Speaking Skills, Strategies, and Applications (cont.)

Oral Communication

Young children use words to help adults and others to understand their needs, ask questions, express feelings, and solve problems. Children learn a lot when they talk out loud. In building a foundation for speaking for a variety of purposes, young children need many opportunities to formulate language rules and communicate their ideas to adults and children. Adults who care about the child's self-esteem and development of oral communication, respond to information, questions, or requests with respect, interest, and eye-contact.

Young children are learning when they:

- F.7.18 Name sounds heard in the environment.
- F.7.19 Imitate simple rhymes.
- F.7.20 Repeat simple sentences as presented.
- F.7.21 Engage in reciprocal conversations for two to three exchanges.
- F.7.21 Request permission.
- F.7.22 Use language instead of physical force to resolve conflicts, with assistance.
- F.7.23 Imitate four to five word sentences.
- F.7.24 Talk without repeating sounds and syllables in words.
- F.7.25 Use auxiliary verbs (e.g., am, is, are).
- F.7.26 Use nouns, plurals, prepositions, and verb forms frequently.
- F.7.27 Use pronouns correctly.
- F.7.28 Use six word vocalizations, signs, symbols, or gestures to communicate.
- F.7.29 Use four word vocalization signs, symbols, or gestures to tell about objects and events in the recent past and near future.
- F.7.30 Pick from two ideas to talk about.

A child can be supported by an adult who:

- Provides an environment that is familiar, comfortable, and stimulating.
- Introduces a variety of rhymes, silly verses, chants, and songs.
- Talks with the child and listens to the child frequently, encouraging sharing experiences and ideas.
- Encourages the use of words with other children and with adults to express ideas, desires, feelings, and to resolve conflicts.
- Provides opportunities for dramatic play.
- Records the child in a variety of speaking situations and allows the child to hear how he actually sounds.
- Provides opportunities for the child to interact and communicate with other children.
- Engages the child in many varied activities and experiences.
- Exposes the child to new concepts and words.
- Continually listens and responds to the child in order to assess language use, fluency, complexity, and imaginativeness.

How it looks in everyday activities:

Supporting Verbal Communication

Natalia is a preschool student whose first language is Spanish. Her father, Mr. Bowen, is a fluent English speaker and her mother is learning English. On the first day of school, Mr. Bowen accompanies Natalia to Mr. Gomez' class and helps her get settled. Mr. Bowen says, "Natalia understands everything, but she is shy in new places. She may not talk very much at first, even though she talks all the time at home."

Mr. Gomez thinks about what he knows about English language learners. He recalls that it may take students about 6 months before they start to use their new language. He decides to support Natalia's understanding and scaffold her expressive use of English throughout the day. Mr. Gomez watches Natalia during free time to see what interests her. He notices that she likes playing with a doll house, so he moves the house so that she needs to ask for help to get the house down. Natalia, motivated to play with the house, at first asks for it by pointing, then by saying the word "house" and later by asking in a sentence. Mr. Gomez supports and reinforces all of Natalia's efforts to communicate.

As the spring semester begins, Natalia seems more confident about using words and even starts to raise her hand to answer questions at times. Mr. Gomez is excited to tell Mr. Bowen that Natalia has even started to volunteer her own ideas about what she liked about a book or to tell about a picture. At the end of the school year, Natalia is a regular contributor to classroom discussions.

Development of a skill in one area is related to and influences other developmental areas:

Social/Emotional:

- Experiences acceptance of self.
- Interacts in appropriate ways.
- Communicates with others in different contexts.

Cognitive:

- Integrates information gained from visual, auditory, physical, and tactile experiences.

Physical:

- Experiences use and labeling of body parts.
- Engages in many gross motor and fine motor activities.

Self-help:

- Shows self-direction by choosing activities.

Communication/Literacy:

- Extends vocabulary.
- Uses language in a variety of ways.

ENGLISH/LANGUAGE ARTS FOUNDATION 7

7.1 - LISTENING AND SPEAKING: Listening and Speaking Skills, Strategies, and Applications (cont.)

Speaking Applications

Young children need an environment filled with rich language and many opportunities to hear language being used for different purposes.

Young children are learning when they:

- F.7.31 Understand and follow a one-step direction.
- F.7.32 Use new vocabulary learned from experiences.
- F.7.33 Talk about action pictures of family, pets, or self.
- F.7.34 Tell something that a favorite character does in a story.
- F.7.35 Name objects from picture books.
- F.7.36 Tell simple stories from picture books.
- F.7.37 Communicate recent experiences.
- F.7.38 Sing the alphabet song.
- F.7.39 Give name, age, and gender upon request.
- F.7.40 Give address upon request.
- F.7.41 Tell three events in chronological order.

A child can be supported by an adult who:

- Talks with the child using language in a naturalistic, real-life context.
- Uses story telling to encourage the use of new and interesting words.
- Encourages the child to share his/her ideas and experiences and expand their understanding by asking many open-ended questions.
- Responds to the child's language explorations as if intending to mean something and provides feedback to clarify meaning (e.g., "Mommy come home?" Answer: "Yes, mommy is coming home").
- Answers the child's questions concerning words and meanings.
- Engages the child in conversations about real experiences and events and responds to the child's verbal cues.
- Provides supportive opportunities for the child to learn "school talk."

How it looks in everyday activities:

Supporting Speaking Applications

Each night at 8 p.m. Leah and her mother Olivia start their bedtime routine. Olivia knows that repeating the same actions every day builds Leah's cognitive skills such as sequencing and time sense and emotional skills such as trust and security. Olivia says, "Come on sweetie, it's time for a bath." Leah shows she has learned the routine when she says, "Then pajamas and snack!"

Once she is in bed, Leah is ready for her favorite part of the routine, a story about herself. Olivia asks, "What is Leah going to do in the story tonight?" and Leah says, "Visit grandma." So Olivia begins, "Once upon a time there was a little girl named Leah who got up extra early to go to her grandma's house!" Olivia stops at times and lets Leah add to the story. She makes sure that the story has a clear beginning, middle, and end. The story is about ordinary things that Leah likes doing. When Olivia closes the story with, "The end," Leah closes her eyes, sighs, snuggles into her blankets, and says, "That was a good story!"

Development of a skill in one area is related to and influences other developmental areas:

Social/Emotional:

- Experiences a warm, caring relationship with parent.
- Hopes, fears, happenings, legitimized by hearing them in a story.

Cognitive:

- Exercises ability to remember and order meaningful events.

Physical:

- Patterns routines to make the transition from active play to quiet.

Self-help:

- Learns to accept rituals as signals of the transition from active to quiet and social to personal.

Communication/Literacy:

- Distinguishes between events of her life and the language in stories and books.
- Recognizes correct and appropriate words for events and objects.

RESOURCES AND REFERENCES

- Bredenkamp, S. & Copple, C. (1997). *Developmentally appropriate practice in early childhood programs*. NAEYC
- Burns, S., Griffin, P., & Snow, C. (1999). *Starting out right: A guide to promoting children's reading success*. National Research Council.
- DeBruin-Parecki, A., Perkinson, K., & Ferderer, L. (2000). *Helping your child become a reader*. Washington, DC: USDOE.
- Hart, B. & Kesley, T. (1995). *Meaningful differences in everyday parenting and intellectual development in young american children*. Baltimore: Brookes.
- Hart, B. & Resley, T. (1999). *The social world of children learning to talk*. Baltimore: Brookes.
- International Reading Association. (2000). *Beginning reading and writing*.
- International Reading Association(IRA)/National Association for the Education of Young People (NAEYC) (1998). *Learning to read and write: Developmentally appropriate practices for young children*. The Reading Teacher, (52)2.
- Martens, P. (1996). *I already know how to read: A child's view of literacy*. Portsmouth, NH: Heinemann.
- McCarrier, A. Pinnell, G., & Fountas, I. (2000). *Interactive Writing*. Portsmouth, NH: Heinemann.
- Miels, Jill C. "Abby bear deserves to be heard: Setting early writers free." *Young Children*, Vol. 56, Num. 2, March 2001.
- Ministry of Education. (1996). *Dancing with the pen: The learner as a writer*. Wellington, New Zealand: Learning Media.
- National Research Council & National Institute on Literacy. (2000). *Reading: Knowing what works*. National Research Council. (1998).
- Neuman, S.B., Copple, C. & Bredenkamp, S. (2000). *Learning to read and write: Developmentally appropriate practices for young children*. Washington, DC: NAEYC.
- Shickedanz, J.A. (1999). *Much more than the ABCs: The early stages of reading and writing*. Washington, DC: NAEYC.
- Snow, C.E., Burns, M.S., & Griffin, P. (Eds.). (1998). *Preventing reading difficulties in young children*. Washington, DC: National Academy Press.

MATHEMATICS
THREE TO FIVE

MATHEMATICS
THREE TO FIVE

MATHEMATICS
THREE TO FIVE

FOUNDATIONS FOR MATHEMATICS

Preschool children are curious, independent, energetic, and eager to learn new things. This makes them excellent candidates for acquiring math concepts that will form a working foundation for more formal math learning in kindergarten and primary grades. Nowhere is it more true to say children learn by experience and discovery than in their acquiring math concepts. Adults have many opportunities to use naturally occurring events to stimulate curiosity and problem solving in order for children to begin to make the critical connection between living and learning. Adults also influence the child's attitude and self-concept with regard to math processes.

Math concepts that are appropriate for preschoolers to begin working with are: numbers, volume, capacity, length, area, shape, space, time, and size. Much of the work will be discovering relationships through matching and comparing, filling and emptying, and measuring and manipulating. There are many opportunities (teachable moments) for adults to ask questions or make comments (e.g., "I wonder what would happen if..."). The most important learning in early years is the vocabulary that develops as a result of these adult-to-child and child-to-child interactions.



KEY FINDINGS

- ♦ **Mathematics is a developmental process that follows a sequence of awareness, exploration, creating, and gaining meaning.**
[Copley, J.V., 2000]
- ♦ **Children move through this sequence at different rates because of individual differences, exposure to tools, hands-on materials, and experiences.**
[Bredekamp, S. & Copple C., (Eds.), 1992; Kamii, Constance, 2000; Copley, J.V., 2000]
- ♦ **Preschool children can solve simple problems and love to do so. Children learn best when they find answers for themselves and in their own way.**
[Fromboluti, C. & Rinck, N., 1999]
- ♦ **It's not just the activities that children do that help them learn, but the questions the child asks and the things the adult points out that get children thinking mathematically.**
[Fromboluti, C. & Rinck, N., 1999]



MATHEMATICS FOUNDATION 1

F.1 - NUMBER SENSE

Number Relationships

Children learn the meaning of numbers in the every day experiences the adult provides in the home, classroom, and nature. The child needs opportunities to watch, play, and interact with adults and other children to learn number vocabulary and to discover number relationships. Developing number sense means more than merely counting. It involves the ability to think and work with numbers easily, to understand their uses, and describe their relationships.

Young children are learning when they:

- F.1.1 Sing and dance to a number song.
- F.1.2 Count a number of objects up to three.
- F.1.3 Count each object only once.
- F.1.4 Imitate counting behavior using the names of large numbers.
- F.1.5 Identify first and last.
- F.1.6 Use whole numbers up to five to describe objects and experiences.
- F.1.7 Identify when objects are the same number, even if arrangement is changed.
- F.1.8 Rote count to five.
- F.1.9 Draw pictures or symbols to represent a spoken number.
- F.1.10 Match number symbols with amounts 1-3.
- F.1.11 Give “all” objects when asked.
- F.1.12 Identify the concept of “less.”
- F.1.13 Count backward from five.
- F.1.14 Give “some” and give “the rest” when asked.
- F.1.15 Identify the concept of “none.”
- F.1.16 Rote count to ten.
- F.1.17 Match number symbols with amounts 0-5.
- F.1.18 Apply one-to-one correspondence with objects and people.
- F.1.19 Identify the next number in a series of numbers up to ten.
- F.1.20 Count backward from ten.
- F.1.21 Pass out objects or food to people or characters.
- F.1.22 Name groups of objects.
- F.1.23 Use a tally system.

A child can be supported by an adult who:

- Counts real things to help the child use personal experiences with objects to better understand numbers.
- Provides daily opportunities for the child to count and recount objects as opportunities naturally arise, points to the object, and recites each number name while counting.
- Provides objects with naturally occurring numbers and number words such as clocks, timers, calendars, thermometers, computers, calculators, measuring cups.
- Uses number words and numerals, including zero, in meaningful everyday activities.
- Points out that counting lets the child know how many things are in a group.
- Uses a variety of strategies (e.g., questions, comments, counting) to prompt children to think about quantity and number words.
- Talks to the child about a variety of uses of numbers (e.g., keeping score in a game, finding an apartment, street address, or phone number).
- Provides opportunities for the child to guess the amount or size of something. Very young children will not be able to estimate accurately, because they are learning the concepts. They first need to understand concepts like more, less, bigger and smaller, first and last.
- Helps the child understand concepts like more, less, bigger, smaller, first, and last.
- Provides opportunities for the child to count and share things.
- Provides opportunities for 4- and 5-year olds to play board games to learn math concepts (e.g., counting, planning ahead, thinking, finding patterns, and understanding how much).

How it looks in everyday activities:

Using names for numbers and counting

Mrs. Lee leads Anne, Rose, and Julia in playing a rhyming game, *Ants on a Log*, singing “Three little ants come out to play on a sunny day!” The three girls pretend to be ants on a log. They enjoy the whole song, singing two ants and one ant until there are none.

“That was fun!” says Anne. “Let’s do more,” adds Rose. “OK,” agrees Mrs. Lee, “let’s draw some pictures of the ant song.” She brings out paper and crayons for each girl.

“Hmm,” Anne says, “I can draw three ants, one for each of us!” Rose nods and carefully draws three ant shapes on her paper. Julia watches, but she doesn’t start to draw anything yet. Seeing her hesitation, Mrs. Lee asks Julia what her favorite part of the song was. After a few more questions, Julia has some ideas and starts to draw. When her picture is completed, Julia tells Mrs. Lee “I want to do more ant games.” Mrs. Lee smiles because she has already planned to serve *Ants on a Log* for snack. She asks, “Who wants to eat an ant snack?” She brings out the ingredients, then explains and shows how to make the snack. Each girl gets to choose one stalk of celery, two spoons of peanut butter, and five raisins to make the snack. While the girls enjoy their snack, they talk about what makes a healthy snack food.

Development of a skill in one area is related to and influences other developmental areas:

Social/Emotional:

- Takes turns.
- Acts out a story.
- Rhymes.

Cognitive:

- Displays number sense through measuring, counting, and comparing bigger and smaller.

Physical:

- Uses large and small muscles.

Self-help:

- Gains knowledge of snack foods that are healthy, and healthy food helps them grow.

Communication/Literacy:

- Shares communication by sharing with others a representation of what was done.

MATHEMATICS FOUNDATION 2

F2 - COMPUTATION

Counting, Sorting, Classifying, and Comparing Objects

Learning to model, explain, and use addition and subtraction concepts in problem solving situations begins with the opportunity for young children to count, sort, compare objects, and describe their thinking and observations in everyday situations. In building the foundation for computation, children need opportunities to observe adults and peers applying mathematical concepts and using problem-solving techniques. Including these concepts in their play and in adult-supported activities, enhances children's understanding.

Young children are learning when they:

- F.2.1 Identify “first” and “last.”
- F.2.2 Trade several smaller items for a larger item.
- F.2.3 Count on fingers.
- F.2.4 Identify and use the concepts of “one more” and “one less.”
- F.2.5 Communicate that a snack is split in “half.”
- F.2.6 Make a collection of items smaller by taking away items when asked.
- F.2.7 Make a collection of items larger by adding items when asked.
- F.2.8 Describe addition situations for numbers less than three.
- F.2.9 Make guesses related to quantity.
- F.2.10 Describe subtraction situations for numbers less than three.
- F.2.11 Describe addition situations for numbers less than five.
- F.2.12 Describe subtraction situations for numbers less than five.
- F.2.13 Break apart a whole quantity of something into a set.
- F.2.14 Combine a whole quantity of something (e.g., pop beads).
- F.2.15 Represent object/activity by drawing or selecting picture.

A child can be supported by an adult who:

- Provides a variety of objects that work together in a 1:1 relationship (e.g., markers with caps, cars with garages, containers with lids).
- Asks the child to pass out utensils, napkins, and cups for snack/meal time.
- Engages in conversations with the child about quantity and comparisons as the child interacts with materials throughout the day.
- Provides a variety of materials that may be used for adding and subtracting.
- Poses questions which ask the child to make guesses or predictions (e.g., “How many do you think you have?”).
- Provides planned opportunities for the child to predict in naturally occurring activities (e.g., guessing how many days before garden seeds sprout).
- Provides opportunities for child to practice forming numerals with many different mediums (e.g., trace numerals in shaving cream, sand, salt; create numerals with rolled clay, pipe cleaners, craft sticks).
- Provides opportunities for child to write numerals with different materials (e.g., chalk, crayons, pencil).
- Provides opportunities to integrate science and math (e.g., “What kind of sand do you think can make a bigger pile, wet or dry? What did you find out?”).
- Offers praise and encouragement that is focused on the activity in which the child is engaged (e.g., “That’s a nice boat you have drawn. Where is it going?” rather than “You’re so good at drawing”).

How it looks in everyday activities

Counting, sorting, and comparing objects

The children in Mary's home-based early care and education program are learning about sorting and counting. Mary finds many different colored blocks and hides them around the room. She makes sure there are different numbers of each color for this activity.

Mary says, "When you hear the music, search for a block. Everyone should find just one block." Mary holds up one finger to show how many blocks each person should find. Mary watches as each child finds a block and then stops the music, signaling the children to gather in a circle.

"Let's see how many of each color you found." Mary says. "Everyone who found a blue, stand here," she says and continues until all the children are grouped. Billy has trouble finding his group and says, "I need help." "Let me see your block." Sean says. "You have a green one like Dmitri has. See?" Sean points to the right, and Billy goes over to stand by Dmitri. The boys hold their blocks up and compare the colors.

"Which color had the most blocks?" asks Mary. Billy shouts "Green!" happy to know the color he has. "No," Sean says "there is more red." Mary says "Let's line up and see which has more." She helps the children line up side by side and one by one so they can see which color has more blocks. "Red has the most. Blue and yellow are the same. And green has the littlest number." Sean says.

Development of a skill in one area is related to and influences other developmental areas:

Social/Emotional:

- Participates in a group experience.
- Follows directions.

Cognitive:

- Sorts and compares objects (e.g., more than, less than, and same).

Physical:

- Uses gross control in lining up, moving around the room, and stopping.

Self-help:

- Puts toys away when finished.

Communication/Literacy:

- Acts out verbal and nonverbal communication.

MATHEMATICS FOUNDATION 3

F.3 - ALGEBRA AND FUNCTIONS

Finding Patterns and Relationships

Young children build the foundation for finding patterns and their relationships by exploring environments that are rich in shapes, sizes, colors, and textures. They learn to identify and describe patterns using mathematical language when there are opportunities to sort, classify, and label things in their environment. Children need hands-on activities to explore and describe patterns and relationships involving numbers, shapes, data, and graphs in problem-solving situations.

Young children are learning when they:

- F.3.1 Follow along and imitate patterns of sounds and movement.
- F.3.2 Reproduce patterns of sounds and movement.
- F.3.3 Reproduce simple AB patterns of concrete objects.
- F.3.4 Represent objects/activities by drawing or selecting pictures.
- F.3.5 Predict what comes next when shown a simple AB pattern of concrete objects.
- F.3.6 Identify attributes of objects.
- F.3.7 Give reason of placement of objects.
- F.3.8 Draw pictures or symbols to represent a spoken number.
- F.3.9 Sort a group of objects by more than one way.
- F.3.10 Name groups of objects.
- F.3.11 Divide a set of four objects into equal parts.
- F.3.12 Apply one to one correspondence with objects and people.
- F.3.13 Categorize familiar objects by function and class.

A child can be supported by an adult who:

- Supplies a variety of materials for sorting and classifying: shells, keys, cereal, pebbles, bottle caps, nuts and bolts.
- Provides items such as plates or egg cartons for the child to use in grouping objects that are sorted by attributes.
- Encourages the child to create, identify, match, and describe patterns in objects, designs, pictures, movement activities, and recurring events.
- Helps the child create and recognize patterns in his/her environment (e.g., room, clothing).
- Provides opportunities for the child to create his/her own patterns for others to follow or extend using prompts and no-prompts.
- Encourages the child to verbally describe why he/she sorted, classified, and ordered objects in a certain way.
- Uses words that describe attributes and criteria of items in the child's environment.
- Builds on the child's understanding of a series by making changes and additions in materials (e.g., varying the number of objects, types of characteristics, degree of variation).
- Helps the child recognize and describe sequences in nature, daily routines, and in stories.
- Assists the child in identifying shapes in the environment.

How it looks in everyday activities:

Recognizing and reproducing a simple pattern

Emma wakes up to a sunny spring day. She is excited because her mommy Julie promised they would plant flowers today. Emma and Julie go to the garden store to get supplies. Julie says, "I want two colors of flowers. Which colors do you like?" Emma wants all pink, but Julie helps her chose pink and white petunias.

At home, Julie shows Emma how to dig a little hole and put some water in it for the petunia. Emma chooses a pink one and places it carefully in the hole, patting the earth back around it. Julie digs the next hole and asks Emma to bring another petunia for it. Emma picks another pink petunia. "Let's use the white one next." Julie suggests. Emma gets a white one to plant. "Doesn't that look nice?" Julie says as they watch the pattern emerge.

After the white petunia is planted, Emma digs the next hole. "What next?" asks Julie. "This time, pink." Emma says, eager to show she knows the pattern "and then white, and then pink again."

Development of a skill in one area is related to and influences other developmental areas:

Social/Emotional:

- Interacts cooperatively with adult.
- Experiences self-esteem by doing grown-up things.

Cognitive:

- Reproduces simple pattern.
- Practices doing things in sequential order.

Physical:

- Uses large and small muscles.

Self-help:

- Practices good hygiene such as hand washing to remove dirt, cleans tools.

Communication/Literacy:

- Engages in conversation.

MATHEMATICS FOUNDATION 4

F.4 - GEOMETRY

Recognizing Common Geometric Shapes and Using Directional Words

In building the foundation for recognizing shapes and using directional words, children need opportunities to explore the size, shape, position, and movement of objects within their physical environment. Spatial reasoning (describing the position, direction, and distance of objects in relation to the child) begins as children become aware of their bodies and personal space within their physical environment. Children learn to recognize, draw, and describe shapes by manipulating, playing with, tracing, and making common shapes using real objects in a variety of activities.

Young children are learning when they:

- F.4.1 Give clues for finding hidden objects.
- F.4.2 Discriminate between object that is pulled apart and one that is put together.
- F.4.3 Identify the missing parts (e.g., the door of a car, nose of the dog).
- F.4.4 Copy a vertical and horizontal line.
- F.4.5 Imitate drawing a cross.
- F.4.6 Sort by one attribute (e.g., size, shape, color).
- F.4.7 Sort a group of objects by more than one way.
- F.4.8 Use “in” and “out” to indicate where things are in space.
- F.4.9 Use “on” and “off” to indicate where things are in space.
- F.4.10 Use the words “here” or “there” to indicate where things are in space.
- F.4.11 Follow instructions to place an object “here” or “there.”
- F.4.12 Follow instructions to place an object “beside” or “next to” something.
- F.4.13 Follow instructions to place an object “between” two things.
- F.4.14 Copy circles, squares, triangles, and rectangles.
- F.4.15 Identify circles, squares, triangles, and rectangles.
- F.4.16 Communicate when something does not belong or should not happen.
- F.4.17 Identify ten body parts.
- F.4.18 Identify attributes of objects.
- F.4.19 Put objects into groups by attributes.
- F.4.20 Complete interlocking puzzle of 8-12

A child can be supported by an adult who:

- Encourages the child to explore materials and environment through movement and hands-on experiences.
- Enables the child to have a wide variety of gross motor movement in open spaces both indoors and outdoors (e.g., walking, crawling, skipping, hopping, jumping).
- Provides materials in a variety of shapes and sizes to create and represent shapes (e.g., paper, pipe cleaners, play dough, scissors, tape, wood).
- Provides a variety of geometric materials (e.g., unit blocks, parquet blocks, stencils).
- Uses and encourages the child to use language and physical gestures to demonstrate directional words with people and things in the environment.
- Names and calls attention to shapes naturally apparent in the environment.
- Encourages child to create representations of shapes by constructing models through drawing, block building, or other mediums.
- Provides space and hands-on materials for creating landscapes (e.g., train tracks, houses, roadways).

How it looks in everyday activities:

Recognizing geometric shapes and using directional words

Jamal and several other children at the ABC Preschool were rolling out play dough. Mrs. Jackson, the teacher, brought cookie cutters and encouraged the children to cut out some circles, squares, and triangles. Jamal held up his circle next to Grace's circle and said, "Hey Grace made the same as me!"

Mrs. Jackson said, "Let's put all the shapes that match together." She got three boxes and labeled them with a picture of each shape. She added a glue outline to each shape picture so that Jim, a student with a visual impairment, would be able to match his shapes to the boxes independently. Each child matched his or her shapes to the right picture on the box.

"Now let's do another game with the shapes." Mrs. Jackson said. "First, we take all the shapes out of the box. Now listen and I will give you a direction. Jamal, you find a triangle shape and put it under the box." Jamal easily finds a triangle and is able to follow the direction. Mrs. Jackson gives many other directions using words like in, on, under, beside, and behind. When Grace has a hard time with the words over and under, Mrs. Jackson demonstrates.

Since the children still seemed to be enjoying the shape games, Mrs. Jackson had them look for circles, squares, and triangles all around the room. They had fun finding the different ways the shapes could look and feel, tracing them with their fingers and drawing them on paper. Mrs. Jackson brought out some stencils for Jim to make his drawings; but they were so popular all the children wanted a turn. To finish the shape activity, Mrs. Jackson brought the cleaned cookie cutters back out and the children cut their peanut butter sandwiches into shapes. "I like how this square tastes!" laughed Grace.

Development of a skill in one area is related to and influences other developmental areas:

Social /Emotional:

- Takes turns.
- Practices self-direction in use of materials.
- Interacts with other children.

Cognitive:

- Uses materials for investigation.
- Organizes and classifies objects.
- Learns spatial concepts and shapes.

Physical:

- Moves about freely.
- Rolls out play dough.
- Stops and starts.
- Motor control and balance.

Self-help:

- Picks up and cleans up with others.

Communication/Literacy:

- Uses vocabulary that indicates understanding of spatial concepts and shapes.

MATHEMATICS FOUNDATION 5

F.5 - MEASUREMENT

Time and Measurement Relationships

Children need many opportunities to explore and discover measurement and apply the results to real life situations in order to construct concepts of measurement. As children begin to use actual measurement instruments and explore measurement relationships, they develop a sense of measurement.

Young children are learning when they:

- F.5.1 Follow a daily schedule.
- F.5.2 Follow steps in a simple routine.
- F.5.3 Order three objects by size.
- F.5.4 Use any descriptive word or gesture to express amount or size.
- F.5.5 Use cups and tools in sand and water.
- F.5.6 Use common measuring tools in correct context.
- F.5.7 Communicate the size of things relative to self (e.g., compared to size of finger, arms length).
- F.5.8 Identify when something is hot and cold.
- F.5.9 Communicate feelings of hot and cold.
- F.5.10 Sort objects into long and short.
- F.5.11 Identify similarities and differences in objects.
- F.5.12 Ask why something is the same or different.
- F.5.13 Identify when something is too heavy to lift.
- F.5.14 Relate time to events.
- F.5.15 Associate events with time-related concepts.
- F.5.16 Tell what comes before and after.
- F.5.17 Tell what activity comes first and what follows in sequence.
- F.5.18 Tells three events in chronological order.
- F.5.19 Categorize familiar items by function and class.
- F.5.20 Choose an object based on function.
- F.5.21 Choose between two activities.

A child can be supported by an adult who:

- Provides a variety of measuring tools and time-related instruments (e.g., rulers, measuring tapes, measuring cups and spoons, clocks, scales).
- Includes charts and posters with measurement language.
- Provides opportunities for the child to experiment with measuring (e.g., sand and water table, snack time, art projects).
- Introduces general concepts of time (e.g., yesterday, today, tomorrow; morning-afternoon-evening) before discussing specific concepts like hours and minutes.
- Talks about measurement concepts during every day activities (e.g., “It’s hot in here today.” “Your cup is almost full.” “Will this container be big enough to hold the blocks?”).
- Encourages the child to practice measuring with non-standard or arbitrary units of measure (e.g., hands, paper clips, blocks, feet).
- Talks about general concepts of time using clocks and calendars (e.g., mark off days on monthly calendars until child’s birthday).
- Talks about time and sequence during daily activities (e.g., wake-up, eat breakfast, brush teeth, get dressed).

How it looks in everyday activities:

Making estimates and using measuring tools

It was a warm and sunny day outside. Mrs. Jones recognized a good opportunity to learn about shadows, so she took her class outside. The children stood in different positions, moving their bodies and watching how their shadows changed. “Who knows what makes a shadow?” Mrs. Jones asked. Jimmy answered, “It happens when something gets in the way of a light.”

“Let’s look at the different sizes of shadows.” said Mrs. Jones. She showed the children a yardstick and explained how to use it for measuring. Carolina is learning to use English, so Mrs. Jones used strategies such as gestures and repetition to make sure she understood the lesson. Carolina smiled when it was her turn to measure a shadow. She laid the yardstick on the shadow of her friend Lilly’s leg. As she measured it, Lilly moved and the shadow got smaller. The girls laughed together and then Lilly moved to make the shadow get bigger again.

Jimmy operated his wheelchair to come closer to the girls. He looked at Carolina and reached out his hand saying, “Hey that’s neat! Can I have a turn with the yardstick?” Mrs. Jones watched as Jimmy held the yardstick out to measure Carolina’s shadow. “Now move,” he said “so it changes.” Carolina made her shadow get shorter, then taller, and then wider. “This is so cool!” Jimmy shouted. Carolina smiled and said, “Cool!”

Development of a skill in one area is related to and influences other developmental areas:

Social/Emotional:

- Plays and works cooperatively.

Cognitive:

- Shows an awareness of conventional measurement tools and methods and making estimates.

Physical:

- Engages in large and small motor activities.

Self-help:

- Demonstrates self-direction.

Communication/Literacy:

- Increases vocabulary.
- Exchanges information with others.

MATHEMATICS FOUNDATION 6

F.6 - PROBLEM SOLVING

Ability to Reason, Predict, and Problem Solve Through Exploration

When young children have experiences in collecting objects and information, as well as opportunities to organize, describe, and graphically represent these collections, they succeed in building a foundation for collecting and using data and thinking about issues of relationships in problem-solving situations. To build a foundation for solving problems, young children need opportunities to hear, use, and apply relevant vocabulary while formulating questions and possible solutions with others based on their observations and experiences.

Young children are learning when they:

- F.6.1 Identify attributes of objects.
- F.6.2 Identify the missing object.
- F.6.3 Give clues for finding hidden objects.
- F.6.4 Make simple cause/effect predictions.
- F.6.5 Find an indirect way to obtain an object.
- F.6.6 Discriminate between object that is pulled apart and one that is put together.
- F.6.7 Create a collection equal to objects in a collection already constructed.
- F.6.8 Identify similarities and differences in objects.
- F.6.9 Identify the missing part.
- F.6.10 Make guesses related to quantity.
- F.6.11 Give reason for placement of objects.
- F.6.12 Communicate when something does not belong or should not happen.
- F.6.13 Use a tool in a new way.
- F.6.14 Use a secondary strategy when the first one fails.
- F.6.15 Use trial and error to solve problems.
- F.6.16 Generalize a solution to a new situation.
- F.6.17 Identify parts of an object.
- F.6.18 Imitate the use of an adult tool in play.
- F.6.19 See a simple task through to completion.
- F.6.20 Recognize silly absurdities in song and play.

A child can be supported by an adult who:

- Provides opportunities to create and share groupings from a variety of materials.
- Provides collections which are already displayed.
- Provides opportunities to discuss the attributes of a collection using appropriate language.
- Represents data using symbols, graphs, and charts (e.g., the number of children wearing red).
- Uses graphs and charts to organize and interpret information and to show relationships (e.g., types of shoes that tie, buckle, or use Velcro).
- Encourages child to experiment with many different ways to solve problems.
- Provides computational tools where they would naturally be used (e.g., calculators near writing material and blocks, adding machines in the office).
- Models correct language when talking with child about quantity (e.g., part, pieces, whole, half, quarter).
- Provides a variety of shapes and materials that may be broken into parts and brought back together again (e.g., pizza, crackers, unit blocks, puzzles).
- Helps the child understand that many problems can be solved in more than one way.

How it looks in everyday activities:

Resolving conflict through problem solving

Mr. Steve's class of 3 and 4 years olds were playing in different centers around the room. Mr. Steve circulated through the room observing and scaffolding learning with the children. All of a sudden, Mr. Steve heard Sara's voice from the block corner, "Timmy, stop that!" Mr. Steve moved quickly to the block area and found Sara crying and Timmy trying to run off with his shirt stuffed with blocks. Between sobs Sara cried, "Why did you break my house? It was for my doll!" Timmy frowned and yelled back "You can't have all the blocks! I need some for my fire station. You have to share!"

Mr. Steve said, "Wow this is a big problem. Sara wants blocks for her house. Tommy wants blocks for his fire station. We need to think what we can do to help solve this problem." Although both children have experience thinking about problems like this with Mr. Steve, they still need help to figure out how to share the blocks. "I had the blocks first," Sara said, "so give 'em back!" "No way!" Timmy said, "You always hog all the blocks." Mr. Steve continues to ask questions about what to do, supporting the children to think about alternatives without giving them a solution. Eventually, they decide to divide the blocks so each one has some. They separate the blocks so each has an equal number of the varying sizes and colors and start to build their individual projects.

Development of a skill in one area is related to and influences other developmental areas:

Social/Emotional:

- Solves differences in a peaceful manner.

Cognitive:

- Solve problems in more than one way.

Physical:

- Uses fine motor control to build with blocks.

Self-help:

- Resolves a conflict in a way that is satisfactory to both parties.

Communication/Literacy:

- Communicates through conversation.

RESOURCES AND REFERENCES

Colorado Department of Education. (In Process). *Building blocks to mathematics (DRAFT)*. Denver, CO: Colorado Department of Education.

Copeley, J.V. (2000). *The young child and mathematics*. Washington DC: NAEYC.

Copeley, J.V. (2000). *Mathematics in the early years*. Washington DC: NAEYC.

Fromboluti, C. & Rinck, N. (1999). *Early childhood: Where learning begins mathematics*. Jessup, MD: U.S. Department of Education, Office of Educational Research and Improvement, National Institute on Early Development and Education.

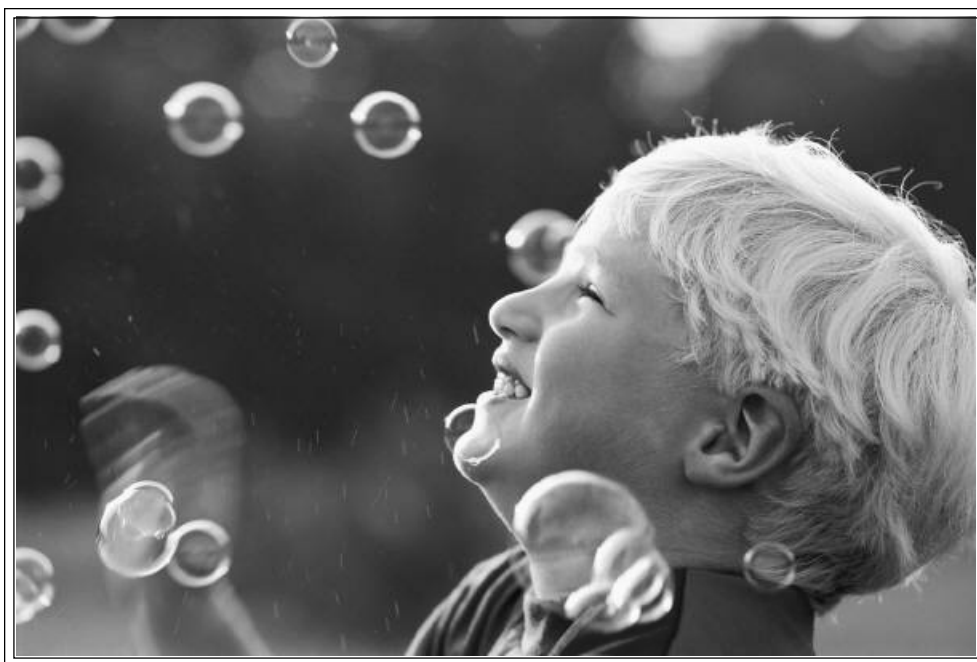
Janke, R.A. & Peterson, J.P. (1995). *Peacemakers A, B, C's for young children*. St. Croix, MN: Growing Communities for Peace.

Levin, D.E. (1994). *Teaching young children in violent times*. Cambridge, MA: Educators for Social Responsibility New Society Publishers.

Ochlberg, B. (1996). *Making it better*. St. Paul, MN: Redleaf Press.

Rice, J.A. (1995). *The kindness curriculum*. St. Paul, MN: Redleaf Press.

Smith, C.A. (1993). *The peaceful classroom*. Beltsville, MA: Gryphon House.



SCIENCE
THREE TO FIVE

SCIENCE
THREE TO FIVE

SCIENCE
THREE TO FIVE

FOUNDATIONS FOR SCIENCE

Young children are natural scientists. In planning for science experiences, we are not introducing new activities to children; we are merely defining a process they began at birth: making sense out of their world with the intellectual processes currently available to them. During this process of discovery, young children can form misconceptions about their world. Through multi-sensory, firsthand, spontaneous, and repeated experiences that involve both appropriate materials and processes, any misconceptions will be clarified and revised. “These capacities of observation and prediction are the foundation of scientific inquiry.” (*Eager to Learn: Educating Our Preschoolers*. National Research Council. 2001. National Academy Press).

As a result of such science experiences, children:

- ◆ Express and display confidence in themselves and in their environment.
- ◆ Verify information through necessary, firsthand experiences.
- ◆ Develop and apply basic concepts.
- ◆ Demonstrate observation skills.
- ◆ Use tools, equipment, and familiar materials.
- ◆ Display problem solving with adult scaffolding.
- ◆ Explore and discover to increase basic knowledge.
- ◆ Develop sensory, physical, emotional, intellectual, and social capacities.
- ◆ Increase vocabulary and ask and answer questions.

The young child is now on the way to becoming an active, enthusiastic, and self-directed learner.

KEY FINDINGS

- ♦ **Everybody can do science and invent things and ideas.**
[American Association for the Advancement of Science, 1993]
- ♦ **Learning science is something children do, not something that is done to them.**
[National Research Council, 1996]
- ♦ **Children should develop an understanding of what science is, what science is not, what science can and cannot do, and how science contributes to culture.**
[National Research Council, 1996]
- ♦ **Children's learning reflects a recurring cycle that begins in awareness and moves to exploration, to inquiry, and finally to utilization.**
[National Research Council, 2000]
- ♦ **"If children are to understand science, they must be permitted to abstract knowledge on their own, or at least be permitted to verify for themselves much of the information they are given."**
[Schickedanz, Judith A., York, Mary E., and White, Doris, 1977]
- ♦ **Our world is a museum, a field trip, a laboratory, and a natural resource, just waiting to be discovered, explored, and enjoyed.**
[Taylor, Barbara J., 1991]



SCIENCE FOUNDATION 1

F.1 - THE NATURE OF SCIENCE AND TECHNOLOGY

Scientific Inquiry and Process

Young children are natural scientists. When provided with opportunities to observe and investigate, they will ask questions and comment about their observations and discoveries. Parents, teachers, and caregivers who answer their questions and arouse their interest and curiosity about the world around them sow the seeds for these future scientists.

Young children are learning when they:

- F.1.1 Choose an area with science materials as a place to work.
- F.1.2 Interact with and explore a variety of objects, books, and materials.
- F.1.3 Observe and describe properties of objects.
- F.1.4 Make selections from the science objects and materials available.
- F.1.5 Use the five senses (touching, smelling, seeing, hearing, tasting) to investigate the environment and to gather information.
- F.1.6 Use a variety of “scientific tools” (e.g., balance scales, magnifying glasses, measuring cups, food coloring) to investigate the environment and to gather information.
- F.1.7 Use age appropriate scientific equipment (e.g., magnifying glasses, thermometer, scales) when participating in scientific experiences.
- F.1.8 Engage in a scientific experiment with a peer or with small groups of children using sharing/turn taking skills.
- F.1.9 Ask and answer questions about his world.

A child can be supported by an adult who:

- Provides opportunities in and out of the classroom for children to explore objects and materials.
- Encourages and supports opportunities for children to plan and select science-related activities.
- Provides a variety of materials and objects for the child to explore and ask questions about.
- Extends the child’s thinking and learning by posing problems, making suggestions, responding to and encouraging the child’s questions, and adding complexity to tasks.
- Extends the child’s learning by allowing the child to make predictions.
- Extends the child’s learning by providing assistance and information.
- Encourages the child to document discoveries through a variety of ways (e.g., drawings, photos, discussions, graphing).
- Offers the child a variety of materials/objects to touch, smell, hear, see, and taste.
- Considers the child’s developmental level and background knowledge when choosing activities and materials.
- Supports the child’s beginning friendships by providing opportunities for the child to learn and explore with peers and adults.
- Sets up and assists the child in doing simple science experiments (e.g., mixing colors, cooking).
- Uses language associated with science (e.g., hypothesis, prediction, conclusion, experiment, science, investigation).

How it looks in everyday activities:

Water Droplet Trails

Susan, Juan, and Mrs. Hunt are watching the rain hit the windows. "Look how the water drops get longer as they move down the window," Mrs. Hunt says. Susan traces the drop and says, "It looks like a little worm moving around."

Mrs. Hunt says, "I have an idea to have some fun with some water drops." She brings out several Styrofoam plates and some permanent markers. "Draw a small circle, a little smaller than a dime," she says. "Next, make different lines to connect the circles, like a straight line, or wavy line." Juan draws a jagged line and Susan makes a curvy line on her plate.

Mrs. Hunt uses an eyedropper to fill up one circle with water. She carefully tilts her plate so that the water runs along the line from one circle to the other. Both children fill a circle and watch the water move along the lines. Susan uses a small sponge to fill her circle because the eyedropper is hard for her to use. "I want to do it again," Susan says. "Here," Juan says, "just dry the plate with this paper towel and then start over."

Development of a skill in one area is related to and influences other developmental areas:

Social/Emotional:

- Demonstrates interest and participates in classroom activities.
- Seeks out children and adults.
- Works cooperatively and accepts responsibility.
- Helps others in need and respects the rights of others.
- Shares materials.

Cognitive:

- Explores objects and environments.
- Observes and makes discoveries.
- Follows simple directions.
- Uses creativity and imagination.
- Identifies names of objects.
- Increases vocabulary.
- Makes comparisons.
- Displays awareness of cause-and-effect relationships.
- Identifies relationships of objects in space.
- Shows curiosity and desire to learn.

Physical:

- Coordinates eye and hand movements.
- Uses small muscles to complete tasks.
- Demonstrates visual discrimination skills.

Self-help:

- Uses planning skills.
- Shows responsibility for helping to maintain the environment.
- Demonstrates increasing independence.

Communication/Literacy:

- Uses words to describe the characteristics of objects.
- Participates in group discussions.
- Asks and responds to questions.
- Uses words to explain ideas and feelings.

SCIENCE FOUNDATION 2

F.2 - SCIENTIFIC THINKING

Computation and Estimation

Meaningful science learning experiences help young children investigate those pre-existing ideas, such as shapes and patterns, while building a foundation for additional knowledge. These science learning experiences also provide opportunities for children to classify or sequence objects by an attribute (characteristic) and to develop an understanding of numbers.

Young children are learning when they:

- F.2.1 Participate in activities related to number sequencing and counting.
- F.2.2 Manipulate a variety of objects and tell about what is observed (e.g., more than, less than, equal to/same).
- F.2.3 Classify objects by different attributes (characteristics).
- F.2.4 Apply previously learned information to new situations.
- F.2.5 Show a curiosity and independent interest in number related activities.
- F.2.6 Use familiar materials to measure things (e.g., popsicle sticks, unifix cubes, paper clips, crayons, hand).

A child can be supported by an adult who:

- Discusses with the child the schedule for the day using language such as before/after.
- Organizes the environment to support and encourage counting/sorting.
- Assists the child in counting the number of boys and girls in the classroom or in other areas.
- Utilizes mathematical language whenever possible, specifying the number of objects being needed or discussed.
- Counts with the child while moving to music or while using body rhythms (e.g., clapping and stomping).
- Provides materials that encourage the child to create symmetrical patterns (e.g., wooden blocks, colored shapes, pattern blocks, tangrams).
- Provides familiar materials to measure things (e.g., popsicle sticks, paper clips, crayons, unifix cubes, hands).
- Assists the child in recording observations and results of scientific investigations.

How it looks in everyday activities:

Measuring, Mixing, and Baking

Each day after school, Tom goes with Nikki to her house. Today, Nikki's mother has promised them that they can make cookies to take to school the next day. The children are excited. Nikki's mom has the recipe, the bowls, the measuring cups and spoons, all the necessary ingredients, and the cookie sheets on the kitchen table. Together, they read the recipe and begin measuring and mixing. As they add ingredients, they discuss how much is a half, a teaspoon, a tablespoon, etc. Nikki and Tom each get a turn with the task of measuring, mixing, and adding ingredients. Nikki's mom assists Tom by supporting his arm as he measures and adds. Because he has cerebral palsy, Tom needs support to pour and to mix. Nikki's mom is sensitive and aware of the fact that Tom needs to be as independent as possible. She lends the support when asked or when she observes it to be necessary. While the cookies are baking, Nikki's mom reads a story with the children (*Cookie's Week*, 1997). After the cookies are out of the oven and cooled, the children count the number of cookies. Nikki's mom helps them compare the number of cookies they have to the number in their class by matching a cookie to a paper cup.

Development of a skill in one area is related to and influences other developmental areas:

Social/Emotional:

- Interacts/talks with other children.
- Demonstrates confidence in one's growing ability.
- Demonstrates increasing independence.
- Understands and respects differences.
- Exhibits trust in adults.

Cognitive:

- Classifies objects by similarities and differences.
- Identifies names of objects; increases vocabulary.
- Persists with task.
- Follows simple directions.
- Observes and makes discoveries.
- Recalls a sequence of events.
- Listens to a story and explains what happens.
- Counts in correct sequence and matches one-to-one.
- Makes comparisons.
- Displays awareness of cause-and-effect relationships.

Physical:

- Coordinates eye and hand movements.
- Uses small muscles for self-help skills and to complete tasks.
- Demonstrates visual discrimination.
- Discriminates differences in texture.

Self-help:

- Uses planning skills.
- Shows responsibility for maintaining the environment.
- Demonstrates increasing independence.

Communication/Literacy:

- Participates in group discussions.
- Shares a story.
- Uses words to explain ideas and feelings.
- Asks and responds to questions.

SCIENCE FOUNDATION 2

F.2 - SCIENTIFIC THINKING (cont.)

Shapes and Symbolic Relationships

A fundamental skill for science endeavors is the ability to observe and reproduce patterns and shapes. Children are attracted to patterns and shapes from early months of life. This innate interest can be utilized to build a good foundation of observation, comparison, and discrimination skills that will enable the child to be a better scientist.

Young children are learning when they:

- F.2.7 Talk about the fact that everything has a shape.
- F.2.8 Observe shapes and look for objects that are the same shape.
- F.2.9 Identify, copy, extend, and create patterns with objects and in drawings.
- F.2.10 Participate in activities using materials with a variety of shapes and patterns.

A child can be supported by an adult who:

- Repeats a sound pattern during musical activities.
- Creates simple visual patterns using children (e.g., boy-girl, stand-sit).
- Provides materials such as blocks or art supplies so that the child can create patterns.
- Has the child recreate patterns using lacing beads, colored pasta, peg boards, poker chips, or other manipulatives.
- Asks the child to look for patterns in and out of the classroom or on clothing.
- Asks the child to look for and name shapes within and outside the classroom.
- Provides opportunities for the child to create his/her own patterns for others to follow and/or extend patterns by using leaves, rocks, nuts, etc.

How it looks in everyday activities:

Discovering “tools” of science

Marcus excitedly enters his family child care home on Thursday morning holding up a magnifying glass. “Mr. Gill! Look what I got from my grandpa!” he exclaims. “Neat.” says Mr. Gill. “Do you know this is a tool for science?”

Marcus looks at the magnifying glass more closely. “Can I share it with my friends?” he asks.

Marcus and Mr. Gill decided that discovery time would be the best time to share and show the other children what a magnifying glass is for. Mr. Gill asks Marcus to help him to gather several other science tools. They find plastic tweezers, balance scales, hand lenses, measuring cups, spoons, and plastic containers filled with rocks, blocks, cotton balls, flower seeds, and many other things. They find some paper and pencils for recording interesting findings.

The boys and girls look at the tools and listen to Marcus telling about his magnifying glass. They take turns trying out the different kinds of tools with the materials that Marcus and Mr. Gill found. Marcus says, “This cotton and paper are both white, but they look different with the magnifying glass.” He shows the paper and cotton to his friend Kim. “What can we look at next?” she wonders.

Development of a skill in one area is related to and influences other developmental areas:

Social/Emotional:

- Exhibits confidence in one’s growing ability.
- Demonstrates interest and participates in activities.
- Seeks out children and adults.
- Helps others in need.
- Works cooperatively with others on completing a task.
- Shares materials.
- Respects the rights of others.

Cognitive:

- Demonstrates an interest in exploring.
- Finds one more solution to a problem.
- Uses creativity and imagination.
- Identifies names of objects.
- Makes believe with objects.
- Shows curiosity and a desire to learn.
- Makes comparisons.
- Shows awareness of cause-and-effect relationships.
- Demonstrates an interest in writing for a meaning.
- Increases vocabulary.

Physical:

- Coordinates eye and hand movements.
- Demonstrates visual discrimination skills.
- Uses small muscles to complete tasks.

Self-help:

- Chooses the activity.
- Uses planning skills.
- Shows responsibility for getting out and putting away.

Communication/Literacy:

- Makes increasingly representational drawings.
- Listens to a story and explains what happened.
- Discriminates sounds.
- Uses words to explain ideas and feelings.
- Asks and responds to questions.

SCIENCE FOUNDATION 3

F.3 - ENVIRONMENTS

The Physical Setting

As natural scientists, young children need multi-sensory opportunities to learn about their environments. Having the opportunities and the time for free exploration of a variety of materials and objects as well as teacher guided explorations, young children can acquire scientific knowledge related to physical science.

Young children are learning when they:

- F.3.1 Participate in activities using materials with a variety of properties (e.g., color, shape, size, name, type of material).
- F.3.2 Investigate and talk about the characteristics of matter (e.g., liquids and solids, smooth and rough, bend-not bend).
- F.3.3 Actively explore simple machines (e.g., pulleys, levers, wheels).
- F.3.4 Investigate the physical surroundings by digging in dirt, collecting and classifying rocks, recognizing changes in weather.
- F.3.5 Gain a natural sense of the forces of nature by experiencing wind blowing, temperature changes, changing seasons of the year, or things falling.
- F.3.6 Describe differences and similarities in various physical environments.
- F.3.7 Ask questions and/or make comments about the sun, stars, planets, and clouds.
- F.3.8 Describe how the physical environment affects the living environment and vice versa.

A child can be supported by an adult who:

- Exposes the child to the concept of balance using blocks, teeter-totter, balance scales, etc.
- Makes available for the child a variety of materials and tools to explore (e.g., wood working tools, magnifying glasses, hand lenses, clocks, pulleys, wind-up toys, springs, magnets).
- Provides an area for science exploration with a variety of available materials (e.g., boards and boxes, levers, wheels and axles, pendulums, and pulleys).
- Provides science-related activities and materials in both the inside and the outside classroom environment.
- Involves the child in experiences with changes of matter (e.g., cooking, mixing things together, dissolving things in liquids).
- Provides a variety of objects for the child to sort, classify, and/or match.
- Allows the child opportunities to predict and the time to test the predictions.
- Integrates science into other areas and activities in the classroom (e.g., math, reading, writing, art, music, movement).
- Uses the language and terms associated with physical science (e.g., fulcrum, force, weight, balance, gravity).

How it looks in everyday activities:

Fun at the Pumpkin Patch

During a trip to the pumpkin patch, Sheila and Rico run around looking for the pumpkins they like best. Lifting up her choice, Sheila discovers a bug crawling under the pumpkin. Rico and Sheila immediately start looking for more bugs and other creatures. “Mrs. Cooper! Do you have a shovel? We need to dig,” Rico says. Mrs. Cooper laughs as she assures the children that they will be able to search for creatures when they return to the child care center.

Back at the center, Mrs. Cooper helps Sheila and Rico use a trowel to collect some soil from the garden, which they put in a dishpan. It is hard to dig up the soil and the children take turns. “Use the trowel to push the soil around in the pan,” Mrs. Cooper instructs. “See if you can see any creatures or bugs. They might be big or they might be small.”

After a bit, Mrs. Cooper returns with a sieve, some white paper, and a magnifying glass. Sheila and Rico watch curiously as she sifts the soil through the sieve onto the paper. “What do you see?” she asks. The children look closely at the paper and use the magnifying glass to see several bugs, worms, and other creatures. They draw pictures to show what they found. “This is fun!” Sheila says, “Can we do it again tomorrow?”

Development of a skill in one area is related to and influences other developmental areas:

Social/Emotional:

- Demonstrates interest and participates in available activities.
- Demonstrates trust in adults.
- Shares materials and works cooperatively.

Cognitive:

- Observes and makes discoveries.
- Makes comparisons.
- Shows curiosity and desire to learn.
- Identifies names of objects.
- Counts/records findings.
- Increases vocabulary.

Physical:

- Coordinates eye and hand movements.
- Moves around (e.g., walking, digging).

Self-help:

- Uses planning skills.
- Does more things independently.
- Accepts responsibility for maintaining the environment.

Communication/Literacy:

- Communicates with peers and adults.
- Takes pictures/records findings.

SCIENCE FOUNDATION 3

F.3 - ENVIRONMENTS (cont.)

The Living Environment

It will not surprise most people that children in the pre-school years are eager to learn more about their living environment. Animals and plants are some of the first things very young children recognize and show an interest in.

Young children are learning when they:

- F.3.9 Observe and explore a variety of live plants and animals.
- F.3.10 Take care of familiar plants and animals.
- F.3.11 Identify plants and animals as living things.
- F.3.12 Identify non-living things.
- F.3.13 Sort things by attribute or characteristic.
- F.3.11 Compare characteristics of living things (e.g., Donkeys have shorter legs and longer ears than horses; a tulip looks like just a cup, but a daffodil looks like a cup and saucer).
- F.3.12 Talk about different types of plants and animals that inhabit the earth.
- F.3.13 Participate in activities related to preserving their environment.

A child can be supported by an adult who:

- Provides opportunities for the child to observe and interact with live animals and plants (e.g., field trips such as farm, zoo, veterinarian's office, nursery, science museum).
- Provides (if no allergies) plants and animals for children to observe including non-toxic houseplants.
- Provides art materials and art experiences to reinforce and support concepts.
- Makes available materials necessary to record findings (e.g., paper, markers, clip boards).
- Assists the child in creating schedules for the care of live animals/plants.
- Plans nature walks to observe, to listen, and to collect.
- Guides the child's observations with questions and comments in order to help the child make connections with what is observed.

How it looks in everyday activities:

What will the wind blow?

On a neighborhood walk, Jessi and Margo begin to notice the trees swaying, branches blowing in the wind. “Why?” asks Ms. Kim, “Why is the stop sign not moving like the branches of the trees?” As the children and their teacher continue to walk, they feel the wind move their hair and clothes and push against their bodies. The discussion continues to focus on the things that do and do not move with the wind.

Back inside, Ms. Kim gathers a variety of familiar objects and materials such as a cotton ball, a piece of paper, a rock, a tissue, a block, etc., and piece of chart paper. On the chart paper, Ms. Kim writes, What can I move by blowing through a straw? On the left side of the paper, Ms. Kim writes a list of the materials and objects she has gathered. She adds a “yes” and “no” column. Jessi and Margo look at the items and predict if they can be moved by blowing through a straw or not. Ms. Kim says, “Think about what happens when you blow. What is it that makes the object move? Will all the objects move when you blow?”

The girls test each object and find that many of their predictions were right. Margo says, “Let’s find more things to test!” Jessi agrees and Ms. Kim helps them look around the room and outside for more objects for their project.

Development of a skill in one area is related to and influences other developmental areas:

Social/Emotional:

- Shares materials.
- Works cooperatively.
- Demonstrates trust in adults.
- Demonstrates interest and participates in activities.

Cognitive:

- Asks and responds to questions.
- Observes and makes discoveries.
- Applies information and experience to a new context.
- Recalls a sequence of events.
- Makes comparisons.
- Discriminates differences in texture.
- Shows curiosity and desire to learn.
- Increases vocabulary.

Physical:

- Coordinates eye and hand movements.
- Uses small muscles to complete tasks.
- Uses gross motor skills.

Self-help:

- Uses planning skills.
- Shows responsibility for maintaining environment.

Communication/Literacy:

- Uses words to explain ideas and feelings.
- Draws/writes about findings.
- Listens to a story.
- Makes up stories.
- Talks with others.
- Recalls words in a song or finger play.

SCIENCE FOUNDATION 4

F.4 - COMMUNICATION

Sharing Observations and Discoveries

As young children explore their world through materials and activities, they need opportunities to share their findings with others through discussions, charts, drawings, computer products, and/or self-published books.

Young children are learning when they:

- F.4.1 Use vocabulary that indicates understanding of scientific principles (e.g., sink, float, melt, solid, liquid).
- F.4.2 Identify attributes or characteristics for comparison (e.g., color, size, gender, shape).
- F.4.3 Classify objects by an attribute (characteristic) and share their thinking with another.
- F.4.4 Participate in discussions related to their findings.
- F.4.5 Use charts, drawings, and/or graphs to share their findings with others.
- F.4.6 Use their findings to create self-published books and/or materials.
- F.4.7 Dictate statements/draw pictures to share findings.

A child can be supported by an adult who:

- Compares with the child similarities and differences in two stories or between two children or two objects.
- Guides the child as he verbally tells about observations using words such as melt, float, liquid, solid, etc.
- Assists the child as he describes his discoveries and/or records his observations or findings through drawings, charts, graphs, etc.
- Provides a variety of objects and opportunities for comparing and sequencing.
- Provides materials needed for the sharing of findings (e.g., paper, glue, scissors, markers, camera, blank books).

How it looks in everyday activities:

From Mud to Dwelling

Mr. Tim's class reads the classic story *The Three Little Pigs*. Later, during free time, Ted and Cindy build a house with blocks. Cindy pretends to be the wolf and Ted the pig. "I'll huff your house down," Cindy shouts gleefully. "Oh no you won't wolf," Ted counters, "I made my house with super bricks." The two laugh some more as they play out the familiar story.

After lunch, Mr. Tim says, "Let's go on a little walk and see some different materials that people use to make their houses." Mr. Tim leads the way around the neighborhood, asking questions to help the children think about how houses are made, what makes a house strong, and where building materials come from.

When they get back to the center, Mr. Tim shows the children some bricks, pieces of wood, and even some vinyl siding scraps. The children touch and pick up the different pieces. They talk and think about the different textures and weights. Mr. Tim asks, "How do people get bricks or other building materials to stick together?" Ted says, "You put bricks together with mud. I saw it on TV." Mr. Tim helps Ted remember more details about how the bricks are held together and share these thoughts with the other children. Cindy remembers that she has seen her mom and dad use a hammer to nail pieces of wood to make their deck. "You have to hit the nail real hard," Cindy recalls. "Let's find out more about building by searching on the Internet," Mr. Tim suggests when it is time to go inside. Cindy and Ted run ahead to get started.

Development of a skill in one area is related to and influences other developmental areas:

Social/Emotional:

- Interacts with others.
- Works cooperatively.
- Feels proud of one's accomplishments.
- Demonstrates interest in activity.

Cognitive:

- Increases vocabulary.
- Follows simple directions.
- Makes comparisons.
- Distinguishes differences in textures.
- Observes and makes discoveries.
- Recalls a sequence of events.
- Uses words to describe the characteristics.
- Demonstrates awareness of cause-and-effect relationships.

Physical:

- Uses small and gross (large) motor skills to complete task.
- Uses drawing/writing tools with increasing control.

Self-Help:

- Uses planning skills.
- Works with minimal adult assistance.
- Shows responsibility for maintaining environment.

Communication/Literacy:

- Asks and responds to questions.
- Makes increasingly representational drawings.
- Participates in group discussions.
- Listens and responds to the story.

RESOURCES AND REFERENCES

American Association for the Advancement of Science. (1993). *Benchmarks for science literacy: Project 2061*. New York, NY: Oxford University Press.

50 simple things children can do to save the earth. (1990). The Earthworks Group. Kansas City, New York: A Universal Press Syndicate Company.

Forte, I. & Frank, M. (1982). *Puddles and wings and grapevine swings: Things to make and do with nature's treasures*. Nashville, TN: Incentive Publications, Inc.

Green, M. D. (1994). *Teaching from cupboards and closets: Integrated learning activities for young children*. Parsippany, NJ: Pearson Learning.

Harlan, J. D. (1976). *Science experiences for the early childhood years*. Columbus, OH: Charles E. Merrill Publishing Company.

Hauser, J. F. (1997). *Super science concoctions*. Charlotte, VT: Williamson Publishing.

Herd, M. (1999). *Learn and play in the garden*. Lake Forest, IL: Forest House Publishing Company.

Moore, J. (2000). *Learning about plants resource book*. Monterey, CA: Evan-Moor Corporation

National Research Council. (1996). *National science education standards*. Washington, D.C: National Academy Press.

National Research Council. (2000). *Eager to learn: Educating our preschoolers*. Washington, D. C.: National Academy Press.

Rockwell, R., Sherwood, E., and Williams, R. (1986). *Hug a tree: And other things to do outside with young children*. Mt. Rainier, Maryland: Gryphon House, Inc.

Schickedanz, J. A., York, M. E., & White, D. (1977). *Strategies for teaching young children*. Engelwood Cliffs, NJ: Prentice Hall.

Taylor, B. J. (1991). *A child goes forth: A curriculum guide for preschool children*. New York, NY: Macmillan Publishing Company.

Williams, R., Rockwell, R., Sherwood, E. (1987). *Mudpies to magnets: A preschool science curriculum*. Mt. Rainier, Maryland: Gryphon House, Inc.

SOCIAL STUDIES
THREE TO FIVE

SOCIAL STUDIES
THREE TO FIVE

SOCIAL STUDIES
THREE TO FIVE

FOUNDATIONS FOR SOCIAL STUDIES

Social studies is the study of people and cultures. It looks at how people live today and in the past, work, get along with others, solve problems, and affect and are affected by their environment. Early childhood social studies is a combination of curriculum and instruction that takes into account self-development and appropriate practices, citizenship and democratic principles, and key understandings of the social sciences: history, geography, government, and economics.

Young children learn through their senses and experiences. Between the ages of 3 and 5, the foundations of learning history and social studies are built around the child's personal experiences and understanding of the relationship of self to others. Adults working with young children must first begin by identifying the child's current knowledge and understanding and build on this with first hand experiences.

Young children are beginning to understand how people relate to the earth, how people change the environment, how weather changes the character of a place, and how one place relates to another through the movement of people, things, and ideas.

Through discussion and experiences with stories and older people, young children begin to gain an understanding of the past. Young children must become aware of personal time (usually between 4 and 7 years of age) before understanding historical time. Time understandings should be a major consideration in how historical topics are introduced to young children.

A young child's social development is an important part of development. Social competence and the willingness to interact competently with others – adults as well as peers – affect a wide range of factors related to learning the basics of one's culture (Katz & McClellan, 1997). The quality of a young child's social competence can be a predictor of later social and academic competence (Pellegrini & Glickman, 1990).

The following sections will assist adults with ideas to help young children learn about their world and their environment – both physical and social. This section of the foundations is divided into the social sciences: history, geography, government, economics, and people in our society. This information will help children lay the foundation for social studies in the elementary grades.

The information and examples are geared for children from 3 to 5 years of age. Please acknowledge that children grow and develop at widely different paces and some adaptations may be needed.

KEY FINDINGS

- ◆ **The primary purpose of social studies is to help people develop the ability to make informed and reasoned decisions for the public good as citizens of a culturally diverse, democratic society in an interdependent world.**
[National Council for the Social Studies (NCSS), 1992]
- ◆ **Adults who engage children in active investigations, build on what children already know, and address misconceptions, help children develop meaningful historical understanding.**
[Barton, 1997; Harris, J.H. & Katz, L. 2001]
- ◆ **The skills children acquire as they investigate topics in social studies teach them how to be researchers: to ask questions, to seek information, and to think about what they discover.**
[Dodge, D.T., Colker, L. J., & Heroman, C. 2000]
- ◆ **Young children learn about social studies firsthand. As members of a family, school, and/or community they have opportunities to live, work, and share with others.** *[Dodge, D.T., Colker, L.J., & Heroman, C. 2000]*
- ◆ **As children study present day and historical topics, they gain understanding of human interdependence and the relationships between people and their environment.** *[Jablon, J.R., Marsden, D.B., Meisels, S.J. & Dichtelmiller, M.L. 1994]*
- ◆ **Children who achieve social competence by the time they are in kindergarten are more likely to succeed academically and socially in later grades.**
[Katz, L. & McClellan, D.E. 1997]



SOCIAL STUDIES FOUNDATION 1

F.1 - HISTORY

Chronological Thinking and Historical Knowledge

Young children are not ready to conceptualize chronological history, as they are just beginning to be aware of time. It is very difficult to understand hours or days. The daily experiences that are recurring, sequential, and part of a regular routine are important for children to begin understanding time. Discussions about daily schedules and what happens first, second, and so on are very important at this stage. Many children show curiosity about things from the past before formal school, and this curiosity can be used to begin the foundation for historical understanding. There is a difference between learning dates and understanding how to order moments in time. Young children should have opportunities to hear and share stories about the past and visuals to help support the development of historical knowledge. These opportunities should include the child's own past as well as the stories and experiences of others. How people dress and what type of tools and technology they use are two clues young children may use to begin to understand history and the past.

Young children are learning when they:

- F.1.1 Sequence recurring events (e.g., "After I eat lunch, I take a rest.").
- F.1.2 Relate new experiences to past experiences.
- F.1.3 Construct a sense of time.
- F.1.4 Use terms relative to time sequence (e.g., beginning/ending, before/after, early/late, night/day, first/next/last, morning/afternoon/evening).
- F.1.5 Put pictures in sequential order.
- F.1.6 Show anticipation for regularly scheduled events.
- F.1.7 Describe daily routine (e.g., home and/or school).
- F.1.8 Retell a story or event in sequential order.
- F.1.9 Distinguish between past, present, and future.
- F.1.10 Verbalize the days of the week and names of the months.
- F.1.11 Gauge time using their own vocabulary (e.g., number of 'sleeps' instead of days).
- F.1.12 Recall information about the immediate past.

A child can be supported by an adult who:

- Talks with the child about what is happening during the day and week.
- Uses the names of the days of the week in context (e.g., "On Monday, we go to the library.").
- Labels events and routines using the words today, tomorrow, next, later, and long ago.
- Provides a routine for the child.
- Asks the child to recall what happened yesterday or last night.
- Uses calendars to talk about what happened in the past and will happen in the future.
- Provides access to clocks, watches, timers, and calendars so the child can model after adults and pretend to measure time.
- Uses the correct terms when talking about time and order (e.g., first/last, before/after).
- Uses the correct terms when talking about clock time (e.g., minutes, seconds, hours).
- Reads stories and discusses what happened in the beginning, middle, and end.
- Answers questions the child may have concerning how people lived in the past.
- Points out differences in dress, customs, tools, and transportation as may be seen in movies, books, or historical sites.
- Provides many examples of and allows the child an opportunity to manipulate the tools people used in the past.
- Encourages family members to talk with the child about family history and culture.
- Cooks recipes reflecting the family's past culture or other cultures.

How it looks in everyday activities:

Sally's Book

Sally's mother Patricia enjoys scrap booking. She has spent many hours selecting photographs and designing pages to mark memorable occasions. One afternoon Patricia is working on a book about a family vacation. Sally watches and starts to ask some questions about what her mother is doing. Patricia says, "I have lots of books that show pictures of fun things our family has done." Sally pages through an older book and wonders, "How come I'm not in any of these pictures?" Patricia explains that this book is from before Sally was born. Sally wonders why Patricia has saved all these old things. Patricia answers, "I like to remember things that happened in the past. These things help me remember."

Sally asks to make her own book, only about her. Patricia agrees that this would be fun. Together they look through a box of memorabilia that Patricia has saved. They find pictures, cards, and artwork Sally made in preschool. "Mom," Sally says excitedly, "I remember this picture I made for you in Sunday school!" Sally likes seeing the old pictures and talking about places she has visited and people she has known.

Development of a skill in one area is related to and influences other developmental areas:

Social/Emotional:

- Identifies oneself as a member of a specific family.
- Speaks with pride about one's heritage and personal history.

Cognitive:

- Talks about past, present, and future.
- Asks and responds to questions.
- Recalls a sequence of events.
- Demonstrates an interest in exploring.
- Arranges objects in a series.

Physical:

- Describes how one grows and develops.
- Uses small motor skills to complete a task.
- Coordinates eye and hand movements.

Communication/Literacy:

- Gathers artifacts to tell a story.
- Communicates with an adult.
- Learns how to construct a book.

SOCIAL STUDIES FOUNDATION 2

F.2 - CIVICS AND GOVERNMENT

Foundations and Functions of Government and Its Citizens

Young children’s learning is dependent on their background experiences and what they see and hear. Young children can begin to understand that they are citizens of their school, community, and country and what it means to be a responsible, active citizen. Children should be exposed to symbols of the state and the nation including the flags.

Participating in a democracy involves making informed choices. Young children who have many opportunities to make choices in their own lives given alternatives are growing in this important process skill.

Understanding the need for and being able to follow rules is an important developmental step for young children. They can be very emphatic about following rules and the reasons why they are important.

Young children are learning when they:

- F.2.1 Listen and talk about stories that illustrate the concept of being responsible.
- F.2.2 Follow simple directions.
- F.2.3 Complete basic responsibilities related to daily needs.
- F.2.4 Respond positively to options rather than commands.
- F.2.5 Talk about the importance and reason for rules.
- F.2.6 Tell the consequences of not following rules.
- F.2.7 Participate in games and follow the rules.
- F.2.8 Remind other children about the rules and things children shouldn’t do to others and why (one should not bite because it hurts).
- F.2.9 Tell the consequences of behaviors and choices.
- F.2.10 Set own consequences for some behaviors.
- F.2.11 Identify and follow different rules in different places (e.g., school rules may be different from home).
- F.2.12 Show self-control by following rules in different places.
- F.2.13 Start sharing some objects with others.
- F.2.14 By age four, compromise, share, and take turns.
- F.2.15 Show greater ability to control intense feelings (e.g., anger, frustration).
- F.2.16 Identify the U.S. and state flags.
- F.2.17 Say the name of the current President.
- F.2.18 Make choices after considering alternatives.

A child can be supported by an adult who:

- Develops positive rules with the child for understanding and ownership.
- States rules in a positive manner to promote positive thinking instead of negative thinking (e.g., instead of “No running,” say “We use walking feet.”).
- Reviews positive rules daily with the child.
- Gives the child options rather than commands.
- Offers easy-to-follow directions.
- Allows time for the child to discuss behavior and consequences.
- Helps the child verbalize thoughts.
- Demonstrates how the child can use words instead of force to obtain something.
- Models sharing.
- Reads and discusses stories, songs, and poems that reinforce cooperation and sharing between peers.
- Provides the child time to interpret and represent experiences through drawing, writing, art, creative movement, pretend play, puppetry, music, stories, and conversation.
- Provides opportunities for the child to make choices.
- Takes photos of the child helping others, caring for her room, or taking care of daily needs and displays them around the room.

How it looks in everyday activities:

Integrating Group and Personal Responsibility

On a beautiful day, Katie and Shondra were playing jump rope. Round and round the rope went as the girls chanted old jumping rhymes. Katie and Shondra turned the rope and three other girls stood in line for their turns. Suddenly, Katie dropped the rope and cut in front of the line. Shondra screamed, "Katie! You said you were going to turn the rope!" "No!" Katie countered. She folded her arms and refused to get out of the line. The other girls joined in yelling at Katie, who started to cry.

Mrs. Lewis heard the commotion and saw Katie crying. Katie was so upset all she could say was that Shondra would not let her jump. Mrs. Lewis knew there would probably be more to the story, so she called Shondra over and asked her to help sort out the problem. Mrs. Lewis helped the girls tell what happened. She then talked about rules and especially the rule about sharing. Katie was able to explain, "I got tired of turning the rope and I wanted a turn to jump." Mrs. Lewis asked Katie how she could have managed this problem in a better way. Katie thought a while and said, "I could ask someone to turn the rope so I could jump." With Mrs. Lewis' support Katie apologized and the girls went back to their game.

Development of a skill in one area is related to and influences other developmental areas:

Cognitive:

- Reflect and find more than one solution to a problem.
- Apply information and experience to a new context.

Social/Emotional:

- Respect the rights and feelings of others.
- Resolve conflicts constructively.

Physical:

- Engages in physical activity.
- Uses large motor skills.

Self-help:

- Problem solve actions and the situation.

Communication/Literacy:

- Uses language for a purpose.
- Recognizes print has meaning and understanding.
- New words become familiar and are understood in context.

SOCIAL STUDIES FOUNDATION 3

F.3 - GEOGRAPHY

Location (Spatial Awareness)

Young children are geographers. They dig in the sand, pour water, watch rain fall, to try to find out about the nature of the world and their place in it. Location tells us exactly where objects are in our world. Young children learn that they relate to other people and physical things. The beginning of an understanding of location is an awareness of their own body and how much space it takes up. By age two, many children are able to distinguish between near and far and features of their environment. The more opportunities children have to run and move about, the greater their ability to become aware of position and location.

Young children are learning when they:

- F.3.1 Name body parts and point to the location of each.
- F.3.2 Ask questions about everything the child sees and finds.
- F.3.3 Move in directions on command (e.g., forward, backward, sideways).
- F.3.4 Identify and locate familiar places (e.g., home, store, grandparent's house).
- F.3.5 Recognize that streets have signs and houses have numbers to help identify locations.
- F.3.6 Point out and name various rooms in the house from the outside.
- F.3.7 Pretend blocks represent buildings and make signs for the roads and buildings.
- F.3.8 Use a simple map (e.g., diagram of the house, street on which the child lives).
- F.3.9 Make roads for toy trucks and cars.
- F.3.10 Recognize where the child is while traveling in the car.

A child can be supported by an adult who:

- Allows a lot of opportunities for the child to run about and explore the environment.
- Allows the child to climb, jump, run, roll, to physically experience space.
- Plays simple games such as "Mother May I" and "Simon Says," asking the child to move in various directions: forward, backward, sideways, up and down, and right and left.
- Uses positional words like above and below in a natural way when giving directions to the child.
- Uses words that describe features such as color, size, and shape.
- Points out where objects are in pictures when reading books (e.g., "The doll is on the bed.").
- Uses left and right in connection with real situations. (To make it easier, place a string or bracelet on one of the child's hands.)
- Uses directional terms (e.g., "We will turn left at the next street", "The kitchen is sunny in the afternoon because the window faces west").
- Increases the child's vocabulary by using pictures from books and magazines that associate with different places on the earth.
- Takes the child for walks around the neighborhood and points out signs and landmarks that indicate locations.
- Reads and uses maps and globes.
- Before traveling, shares the trip on the map with the child by pointing out the route and places where they might stop.
- Points out signs that indicate location (e.g., entrance and exit signs, stairs, escalators, elevators).
- Supplies materials such as floor maps, road maps, strips and circles of paper with blocks.

How it looks in everyday activities:

Mapping the Playground

For his birthday, Ted received a firefighter's hat. He brought it to preschool to show his friends, Dayshawn and Chuckie. "Cool!" Chuckie said when he saw the hat. "Hey let's be firefighter guys," Dayshawn suggested. The boys looked through the creative play materials for more props, finding some tubing for a hose and some more hats. A stuffed Dalmatian became their fire dog. Outside at the play area, Ted pointed to the climbing gym and said, "This can be the fire station." "OK, and the big tree is on fire and we have to put the fire out," Chuckie added.

Dayshawn got to work laying out the road from the fire station to the burning tree. The other boys joined in to make their road authentic, adding stops and turns with markers they find, such as a Frisbee. Soon the boys are driving to the fire, sounding their horn and ready to work.

Development of a skill in one area is related to and influences other developmental areas:

Social/Emotional:

- Work cooperatively to find a solution.

Cognitive:

- Apply information and concepts in a new context.
- Pretend.

Physical:

- Gross motor activity with walking and running.

Communication/Literacy:

- Discuss how to design the play area.

SOCIAL STUDIES FOUNDATION 3

F.3 - GEOGRAPHY (cont.)

Places and Regions

Young learners draw upon immediate personal experiences as a basis for exploring geographic concepts and skills. Every place has its own characteristics and no two are exactly alike. Helping young children learn about the weather, plants, roads, and buildings that make up their neighborhood and city, is the beginning of an awareness of how places differ.

Young children are learning when they:

- F.3.11 Use words hard/soft, rough/smooth, and water/land when describing surfaces.
- F.3.12 Identify various natural features.
- F.3.13 State the name of his city or town.
- F.3.14 Give information about where she lives (e.g., street, telephone number, house description).
- F.3.15 Identify common community symbols (e.g., signs, highway and street markers, lights).
- F.3.16 Describe features of familiar places (e.g., buildings, stores).
- F.3.17 Create representations of the surrounding neighborhood and community (e.g., blocks, drawings).
- F.3.18 Talk about how to get from one common place to another.
- F.3.19 Discuss different types and modes of transportation to get from one location to another and why certain vehicles are more suitable.
- F.3.20 Match objects to the location they belong (e.g., bed in the bedroom, tree in the forest).

A child can be supported by an adult who:

- Takes the child on walks and talks about surfaces children walk upon and asks if they feel hard or soft.
- Provides exposure to some of the basic natural features of the earth in the child's environment (e.g., river, pond, forest).
- Describes characteristics of earth's features using a variety of vocabulary words.
- Lets the child have many opportunities to explore and experience the natural world.
- Provides the child with many materials and opportunities to draw and 'write' about local trips and experiences.
- Talks about the stores and buildings visited and what is in them.
- Helps the child make a simple map of the neighborhood, house, or school.

How it looks in everyday activities:

Exploring the Surroundings

Ms. Elisabeth takes a group of children on a field trip to a local park. The children climb off the bus and gather in a grassy area to talk. Ms. Elisabeth encourages the children to think, make comments, and ask questions about what they think, feel, see, hear, and wonder. Jamie asks, "Why are trees tall?" Karen wonders, "Where do the birds live?" Keisha queries, "How come there are wood chips on the playground?"

Ms. Elisabeth gives everyone a clipboard with paper and pencils. She suggests that the children explore different areas of the park, then report back to the group what they discovered. The children run to different parts of the park, such as the playground, pond, soccer field, and grove of trees. Keisha draws a picture of the playground and shows it to her friend Johnny. Jamie takes a crayon and makes a rubbing of a tree. When Karen sees this, she makes a rubbing of the sidewalk.

On the way back to school, the boys and girls talk about what they have seen and done. Once at school, Ms. Elisabeth gives everyone a chance to tell what they saw and to show the pictures they made. She has a map of the park and marks the places the class visited on the map. As the children talk, Ms. Elisabeth writes down a record of what was found and questions that come up. The class has so much interest in the park activity that they plan to go back the next week.

Development of a skill in one area is related to and influences other developmental areas:

Social/Emotional:

- Exhibit confidence in one's growing abilities.
- Does more things independently.
- Demonstrate interest and participate in classroom activities.
- Work cooperatively with others in completing a task.

Cognitive:

- Demonstrate an interest in exploring.
- Ask and respond to questions.
- Show curiosity and a desire to learn.
- Observe and make discoveries.
- Classify objects by similarities and differences.
- Identify names of objects and events.
- Make comparisons (e.g., more/less, larger/smaller, taller/shorter).
- Identify relationships of objects in space (e.g., below, inside, under).

Physical:

- Use writing and drawing tools with increasing control and intention.
- Discriminates sounds.
- Demonstrate visual discrimination skills.
- Discriminate differences in texture.

Language/Literacy:

- Use words to describe the characteristics of objects (e.g., smooth, green, small).
- Use words to explain ideas and feelings.
- Talk with other children during daily activities.
- Participate in group discussions.
- Make increasingly representational drawings.

SOCIAL STUDIES FOUNDATION 3

F.3 - GEOGRAPHY (cont.)

Physical Systems

Geography examines where people live, why they live there, and how they use the environment and resources. All people change something about the way they live in order to adapt to their environment. Young children become aware of how people and the earth interact. They begin to understand how the weather and climate affect their lives.

Young children are learning when they:

- F.3.21 Determine what type of clothing to wear based on the weather.
- F.3.22 Identify seasons by temperature or other characteristics (e.g., snow, leaves changing).
- F.3.23 Discuss negative and positive aspects of areas and why people might want to be there.
- F.3.24 Listen and respond to stories about other areas (e.g., deserts, mountains).
- F.3.25 Draw pictures representing the seasonal changes.
- F.3.26 Recognize people live in different types of homes (e.g., apartments, houses).
- F.3.27 Identify and describe people who live in different places for different reasons (e.g., farms, cities, small towns).

A child can be supported by an adult who:

- Talks about clothing choices with the child based on the weather.
- Takes the child for a walk in different types of weather (e.g., windy, cold, hot, rainy, snowy) and discusses the experience and how it felt to be outside.
- Discusses how things look in different types of weather (e.g., when the sun is shining, when it is foggy).
- Helps the child explore the seasonal changes and how that impacts the child's life (e.g., clothing, food, experiences).
- Looks at the thermometer with the child and talks about the temperature.
- Watches the weather forecast on TV or in the paper with the child.
- Discusses the weather in other locations with the child (e.g., "Remember how warm it was in Florida over Christmas vacation?").
- Talks about the different cloud formations and helps the child predict what clouds tell us about the weather.
- Takes the child to a construction site and discusses what is observed.
- Takes the child to visit a farm and talks about how farmers grow crops and raise livestock.

How it looks in everyday activities:

Seasons

Mr. Mark's classroom has a large maple tree outside of it. It is so big that all the children are able to sit under it on nice days. The boys and girls love the tree and like to see it change over the course of the school year.

The school year starts near the end of summer. Katina asks Mr. Mark if they can draw a big poster of the tree. Mr. Mark says yes and provides a big poster board and some markers. The children work together to draw the large maple, with big green leaves.

One day in October, Katina notices that the tree is looking different. "Hey Mr. Mark, our tree has some yellow leaves. Is it OK?" she wonders. Mr. Mark calls the other children over to the window and they all look at the tree. "See how the leaves are changing color?" he asks. He continues, "In the fall, leaves on trees like this change color and then they fall off. Soon all the leaves will be gone for the winter." The boys and girls look at some books that explain about the changes trees go through each year. Katina asks, "Why does this tree lose its leaves, but the pine tree at home doesn't?" Mr. Mark helps the boys and girls find answers on the Internet.

The children decide to make a new poster that shows the tree with fall colors. In the winter, they make a picture of the tree with no leaves. As the school year ends in spring, they add a final picture of the tree with new leaves. Together the four posters show what the children learned about their favorite tree.

Development of a skill in one area is related to and influences other developmental areas:

Social/Emotional:

- Demonstrates interest and participates in classroom activities.
- Works cooperatively with others on completing a task.

Cognitive:

- Identifies the different seasons and various seasonal changes that occur.
- Shows curiosity and a desire to learn.
- Makes and tests predictions.
- Observes and makes discoveries.
- Recalls a sequence of events.
- Shows an awareness of time concepts.

Physical:

- Increases visual discrimination skills.

Self-help:

- Recognizes books as a resource for extending or verifying information.

Communication/Literacy:

- Uses words to describe the characteristics of objects.
- Participates in group discussion.
- Labels pictures.
- Observes oral language set down in written language.

SOCIAL STUDIES FOUNDATION 3

F.3 - GEOGRAPHY (cont.)

Human Systems

Young children begin to first understand the system of the family. Through dramatic play and discussions, children actively explore the roles of family members. They may begin noticing similarities and differences with their family and friends' families.

Young children are learning when they:

- F.3.28 Pretend to take care of a doll by feeding and other activities.
- F.3.29 Play the role of different family members through dramatic play.
- F.3.30 Discuss members of the family and their roles.
- F.3.31 Draw pictures of their family.
- F.3.32 Ask questions about families.
- F.3.33 Talk about how he is the same and/or different from other children.

A child can be supported by an adult who:

- Provides many opportunities for the child to explore family relationships through dramatic play and conversation.
- Helps the child identify and name family members and their relationships and roles.
- Talks about the child's unique qualities and those qualities that make him similar to other children.
- Assists the child in making a family book with pictures and drawings of members.

How it looks in everyday activities:

Student of the Week

In Mrs. Samuelson's class, each student has a chance to be student of the week. The children bring in a poster titled, "All About Me." This week is Jocelyn's turn to be student of the week, and she is very excited.

Mrs. Samuelson has sent home a list of the kinds of things that would be appropriate for the Student of the Week poster. Jocelyn and her mother Angie read the list together. Angie says, "We can put pictures of your favorite foods, toys, places, and people on the poster." They work together to make a list of Jocelyn's favorite things. Angie brings out a box of pictures and they look through them for photos that could go on the poster. Jocelyn finds a photo of their whole family that she wants to put on the poster. "Mom, I need a picture of me with the kitty," she says. When they do not find a picture, Angie suggests that Jocelyn draw one. For Jocelyn's favorite television show, they find a picture of the characters in the paper.

Soon the poster is ready, and Angie rolls it up to take to school. Jocelyn is proud of her poster and can't wait to show it to Mrs. Samuelson and her friends. Mrs. Samuelson lets Jocelyn tell the class about her poster. She shows the different pictures and drawings and tells about her favorite food (tacos), favorite activities (gymnastics), and favorite people, including Grandma Sally and best friend Cindy. Cindy tells Jocelyn, "Your poster is good. I can't wait for my turn next week!"

Development of a skill in one area is related to and influences other developmental areas:

Social/Emotional:

- Works with others to complete a task.
- Speaks with pride about one's heritage and family.

Cognitive:

- Recalls words from mobile.
- Identifies the roles people play in a family situation.

Physical:

- Uses small motor eye-hand in construction and writing.

Communication/Literacy:

- Recognizes sight words.
- Demonstrates an interest in writing for a purpose.
- Imitates recognizable letters.
- Recognizes his name in print.

SOCIAL STUDIES FOUNDATION 3

F.3 - GEOGRAPHY (cont.)

Environment and Society

All people change something about the way they live in order to adapt to their environment. By 4 and 5 years of age, children begin to learn what they can do to adjust and how people change earth to their own benefit. Young children express interest in things distant and unfamiliar and have concern for the use and abuse of the physical environment.

Young children are learning when they:

- F.3.34 List things that do and do not belong in the environment (e.g., litter, smoke)
- F.3.35 Discuss the need for a clean environment.
- F.3.36 Help clean up after doing an activity.
- F.3.37 Help with home and class routines that keep the house/classroom clean and safe.
- F.3.38 Help parents/adults with recycling empty containers at home/school.
- F.3.39 Design posters for recycling and post in the home/school.

A child can be supported by an adult who:

- Talks with the child about the environment and what people can do to protect it.
- Shows the child examples of clean and safe environments and areas that are not so clean or safe.
- Gives the child responsibility for keeping a room or space clean or tidy.
- Explains how recycling empty containers and papers helps our environment.
- Gives the child help in sorting recycle items from home/school.
- Guides the child in giving out information to others about recycling and how it helps our environment.
- Describes how smoking is hazardous to the health of children and adults.

How it looks in everyday activities:

Recycling

Mario and Jimmy are playing at Mario's house one afternoon after school. They are running outside and having a great time. Hot and sweaty, the boys come inside and ask Mario's mother Julia for a drink. She gives them each juice in a plastic bottle and a small box of cereal. The boys laugh and talk as they eat their snack. As they finish and get ready to go back outside, the boys toss the empty containers in the trash.

When Julia comes back into the kitchen a short time later, she notices the containers in the trash can. Julia frowns as she calls the boys back in. "Mario, I appreciate that you cleaned up after yourself. But remember what we do with this kind of trash?" she asks. "Oops!" Mario exclaims. "We recycle plastic and cardboard. I forgot."

Jimmy's family does not recycle and he asks, "What are you talking about?" Mario explains that it is important to keep the earth clean and looking nice. Julia adds that trash can pile up in the environment, and some things can contaminate the earth. The boys put their trash in the recycling container and Julia says, "Now this plastic and cardboard can be used again instead of just wasted."

When Jimmy gets home, he tells his mom about what he learned at Mario's house about recycling. Jimmy's mom says it sounds like a lot of work. Jimmy says, "It was easy Mom. We just put the plastic and paper in a different container. Mario's mom says the trash guys will pick it up." Jimmy's mom agrees to check into it and later that week a recycling container shows up at their house. Jimmy feels proud that his family is helping the environment too.

Development of a skill in one area is related to and influences other developmental areas:

Social/Emotional:

- Works with peers.
- Demonstrates interest and participates in group activity.
- Respects the rights of others.

Cognitive:

- Learns and uses new vocabulary words.
- Applies new information and experiences to a new context.
- Shows curiosity and a desire to learn.

Physical:

- Expend energy.
- Throws an object in the intended direction.

Self-help:

- Learns life long skills.

Communication/Literacy:

- Follows simple directions.
- Shows speaking and listening skills with an adult.

SOCIAL STUDIES FOUNDATION 4

F.4 - ECONOMICS

Economics

The concepts from economics that are relevant to young children revolve around how families and communities work together to meet their basic needs and wants. Children have a growing awareness of the role of money in purchasing and the connection between work and money. Adults have a significant role in drawing a child's attention to these processes and clarifying any misconceptions. While the interest and ability to grasp economic concepts varies widely from child to child, some of the following ideas can be introduced in the preschool years.

Scarcity- ***The condition of not being able to have all the goods and services that we want.***

Choice- ***What someone must make when faced with two or more alternative uses for a resource.***

Goods- ***Objects that can be held or touched that can satisfy people's wants.***

Services- ***Activities that can satisfy people's wants.***

Young children are learning when they:

- F.4.1 Play store or restaurant with play or real money, receipts, credit cards, telephones.
- F.4.2 Role play different types of occupations.
- F.4.3 Talk about what he wants to be when he grows up.
- F.4.5 Recognize that things have to be paid for with money and that sometimes you can't buy what you want because you don't have enough money.
- F.4.6 Are aware that adults work in order to earn enough money to buy the food, clothing, and housing that a family needs.
- F.4.7 Save money for a future purpose.

A child can be supported by an adult who:

- Provides materials (e.g., cash registers, wallets, purses, checkbooks, credit cards, receipts) and clothing for dramatic play.
- Uses the names of coins and currency, their real and relative worth, and provides an opportunity for the child to handle and become familiar with coins and currency. Some children will become aware that if you come from or travel in another country, there will be other denominations of money.
- Reads many books about different types of occupations.
- Provides an opportunity for the child to visit many different types of employment arenas. (e.g., police and fire stations, stores, restaurants, banks, businesses, construction sites)
- Takes the child to visit a factory and business where his favorite food, toy, and clothes are made and sold.
- Allows the child to 'pay' for a purchase.
- Engages with the child as he uses currency and coins in role playing.
- Introduces the purpose of banks (a safe place to keep our money until we need it), checks (a letter to the bank that tells them to give the grocery store \$\$ from our money), bank machines (way for us to get some of our money out of the bank conveniently).
- Creates opportunity for the child to choose and discusses consequences of choices.

How it looks in everyday activities:

Money Saved

“Grandma Betty,” Marie says, “I want to buy Christmas presents for Mommy, Daddy, and Eddie this year, but I don’t have any money. Can you give me some?” “Well, I won’t give you money, but I have some jobs that you could do to earn the money,” she says. Marie thinks this is a good plan and asks what kind of jobs her grandmother has for her. It turns out that there are many chores that Marie can do, such as helping with the pets, cleaning windows, and dusting furniture.

Every time Marie completes a task, she earns some coins. Grandma Betty gives Marie a small empty coffee can to keep her earnings. They make a small slot in the plastic lid to push the coins through. Marie likes to hear the sound the money makes when it clinks to the bottom of the can.

Marie works for several months and does not spend any of her money. As the holidays approach, Grandma Betty says, “We need to count your money so you can see how much you will have to spend on each gift.” Together they count the coins and make a list of the gifts to purchase. Grandma Betty helps Marie to choose gifts that fit her budget. On Christmas morning, Marie’s mother, father, and brother are surprised to have gifts from her. Marie proudly says, “I worked and saved my money like Grandma Betty showed me.” Grandma Betty smiles and pats Marie on the back.

Development of a skill in one area is related to and influences other developmental areas:

Social/Emotional:

- Develops working relationship with an adult.
- Obtains satisfaction from doing something that helps others and/or improves the environment.

Cognitive:

- Makes the connection between work and money.
- Develops a relationship between the price of goods and the amount of money available.
- Makes choices.
- Uses planning skills.
- Persists in tasks.

Physical:

- Expends energy.
- Uses small and large muscles to complete tasks.

Self-help:

- Learns practical skills for future helping tasks.

Communication/Literacy:

- Uses new vocabulary words in appropriate context.
- Identifies coins by name and relative worth.

SOCIAL STUDIES FOUNDATION 5

F.5 - INDIVIDUALS, SOCIETY, and CULTURE

Cultural Diversity

Three and four year olds are still quite egocentric and relate to their own experiences. They begin to notice similarities and differences between themselves and others.

Young children are learning when they:

- F.5.1 Identify differences between people of different cultures, backgrounds, and abilities.
- F.5.2 Attend to and comment on gender differences.
- F.5.3 Ask questions about physical differences.
- F.5.4 Notice people's skin and explore the differences.
- F.5.5 Notice that some people speak differently than others.
- F.5.6 Observe that different families live in different types of housing.
- F.5.7 Discuss how grandparents and older people look and act different from children.
- F.5.8 Express enjoyment and pleasure when hearing poems, stories, and songs about a variety of people and cultures.
- F.5.9 Use interpersonal skills of sharing and taking turns in interactions with others.

A child can be supported by an adult who:

- Gives the child opportunities to be with many other children to build interpersonal skills (e.g., sharing, taking turns, treating others equally).
- Models caring and kindness for all people.
- Models treating others with respect and fairness.
- Shares stories, songs, and poems about different cultures.
- Discusses with the child physical characteristics and how they can be similar and different (e.g., many people have hair, but different color, length, texture).
- Provides opportunities for discussing the child's physical changes (e.g., creates a height graph and compares sizes).
- Offers play experiences for the child to move and talk with others to establish friendships.
- Provides the child with accurate and compassionate answers to help the child develop a sense of respect for the physical differences of others.
- Provides opportunities for the child to engage in gender non-stereotypic activities.
- Provides art materials, books, photos, and dramatic-play props that celebrate the beauty of diverse cultures.
- Appreciates the values, beliefs, and background experiences the child and the child's family bring.
- Talks about how family members love and support each other.
- Broadens the child's knowledge about children and families in other places and cultures through books, stories, pictures, and videos.

How it looks in everyday activities:

Snacks and Culture

Eun-sook, her mother, and her grandmother are walking to the corner grocery store to get some things for dinner. Eun-sook sees some fruit snacks and asks if they can get some for her lunchbox. Her grandmother wrinkles her nose and asks why she would want to eat something like that. Eun-sook says, “Stephanie has it in her lunch and it looks good. I want to try it.”

Eun-sook’s mother knows that it is good for her to try different foods. She is happy that her daughter is not a picky eater. Eun-sook’s mother agrees to let her try the American snack food in her lunch. Grandmother frowns but says nothing. She is worried that the snack food is unhealthy.

Later at home, Grandmother makes a traditional snack from the family’s home country. She brings it to Eun-sook to try. Eun-sook says, “This is yummy!” She asks if she can have another piece.

In the morning, Eun-sook gets her lunch box from her mother. She looks inside and sees that she has a fruit snack. “Grandmother, may I have some of the snack that you made, too? I want to let Stephanie try it.” Grandmother smiles and feels pleased that she has shared something from their home country with others. That afternoon, Grandmother decides to try the fruit snack herself. “Not too bad,” she thinks, “but my snack is better!”

Development of a skill in one area is related to and influences other developmental areas:

Social-Emotional:

- Tells the importance of sharing and caring for others in a family or community.

Cognitive:

- Recalls previous experiences to relate them to a current context.

Physical:

- Uses gross motor skills when walking.

Self-help:

- Chooses own foods for meals.

Communication/Literacy:

- Uses language skills to participate in discussion.
- Uses new vocabulary words in context.

RESOURCES AND REFERENCES

- Bredekamp, S. & Copple, C. (1997). *Developmentally appropriate practice in early childhood programs*. NAEYC . . . *Child observation record*. (1992). Ann Arbor, MI: High/Scope Educational Research Foundation.
- Dodge, D.T., Colker, L.J. & Heroman, C. (2000). *Connecting content, teaching, and learning*. Washington, DC: Teaching Strategies.
- Fromboluti, C.S. & Seefeldt, C. (1999). *Early childhood: Where learning begins; Geography*. Washington, DC: US Department of Education, OERI.
- Haugland, S. (1997). *Outstanding developmental software*. Early Childhood Education Journal, 24(3), 1799-1840.
- Helm, J.H. & Katz, L. (2001). *Young investigators: The project approach in the early years*. Washington, DC: NAEYC.
- Jablon, J.R., Marsden, D.B., Meisels, S.J. & Dichtelmiller, M.L. (1994). *Omnibus guidelines: Preschool through third grade*. Ann Arbor, MI: Rebus.
- Katz, L. & McClellan, D.E. (1997). *Fostering children's social competence: The teacher's role*. Washington, DC: NAEYC.
- Levin, D.E. (1986). Weaving curriculum webs: Planning, guiding and recording curriculum activities in the day care classroom. *Day Care and Early Education*, 13(4), 16-19.
- Pellegrini, A.D. & Glickman, C.D. (1990). Measuring kindergartners' social competence. *Young Children*, 45(4), 40-44.
- Redleaf, R. (1983). *Open the door, let's explore: Neighborhood field trips for young children*. St. Paul, MN: Toys 'n Things Press.
- Seefeldt, C. (Eds.). (1999). *The early childhood curriculum: Current findings in theory and practice*. New York: Teachers College Press.
- Seefeldt, C. & Galper, A. (2000). *Wants and needs: Beginning economic concepts, active experiences for active children*. Upper Saddle River, NY: Prentice Hall.
- Teaching Tolerance Project. (1997). *Starting small: Teaching tolerance in preschool and the early grades*. Montgomery, AL: Southern Poverty Law Center.
- Wenning, J. & Wortis, S. (1985). *Made by human hands: A curriculum for teaching your people about work and working people*. Cambridge, MA: The Multicultural Project for Communication and Education.

PHYSICAL EDUCATION and HEALTH
THREE TO FIVE

PHYSICAL EDUCATION and HEALTH
THREE TO FIVE

PHYSICAL EDUCATION and HEALTH
THREE TO FIVE

FOUNDATIONS FOR PHYSICAL EDUCATION AND HEALTH

Early childhood is the time for a child to begin the development of an active, healthy lifestyle. This development of skills, knowledge, and attitudes that leads to such a lifestyle must be taught and should begin early in order to ensure a lifetime of good health.

As never before, attention is being given to the research based knowledge that brain and body development are critically linked in the preschool years. It is through physical activity and movement of one's own body that the human brain internalizes the conceptual foundations of laterality (left and right), directionality (up, down, in, out) and position in space (over, under, behind). All these concepts are critical to mathematical thinking related to patterns and relationships, as well as to the foundations of reading and writing. They are necessary in order for the child to "see" how letters are formed and put together in patterns to create words and to translate this understanding into physical movements to recreate these symbols on paper in writing form. Also as young children move their bodies, they learn many concepts through their senses (sensory motor integration). Children need to be provided with many experiences that integrate their body movements with their senses which include: tactile/touch; smell; hearing; taste; sight; kinesthesia (movement); and the vestibular sense (found in the inner ear that helps maintain balance and judge a person's position in space). Young children need those experiences that stimulate the inner ear's vestibular area (e.g., rocking, swinging, rolling, turning upside down, spinning).

The purpose of this section of the document is to focus on developmentally appropriate practices in movement programs as well as health issues for 3 to 5 year old children. Research indicates that connections that are stimulated and used tend to become permanent fixtures; while those that are not tend to be eliminated. It is therefore critically important for adults who interact with these young children to provide the kinds of activities illustrated in this section in order to help promote each child's brain development.



KEY FINDINGS

- ◆ **Children should engage in daily movement opportunities designed for their developmental levels in order to enhance the concepts of body awareness, space awareness, effort, and relationships and to develop competence in a variety of manipulative, locomotor, and non-manipulative skills.** [National Association for Sport and Physical Education, 2000]
- ◆ **Young children learn and develop in an integrated fashion; thus, learning experiences in movement should encompass and interface with other areas of development.** [National Association for Sport and Physical Education, 2000]
- ◆ **Adults help children understand the satisfaction and joy that results from regular participation in physical activity.** [National Association for Sport and Physical Education, 2000]
- ◆ **Adults use observational assessment of each child's progress to plan and adapt curriculum to meet individual developmental and learning needs.** [Bredekamp, S. & Copple, C., (Eds.), 1997]
- ◆ **Adults provide a variety of novel learning experiences that emphasize the same motor skill, across different environmental contexts, allowing for the gradual development of desired movement patterns and the development of confidence.** [National Association of Sport and Physical Education, 2000]
- ◆ **Adults work in partnership with parents, communicating regularly to build mutual understanding and to ensure that children's learning and developmental needs are met.** [Bredekamp, S. & Copple, C., (Eds.), 1997]

The foundation of physical education should be an integral part of any program for 3 to 5 year old children. For these young learners, physical education focuses on all activities and experiences that support and encourage gross/fine motor development as well as sensory integration.

PHYSICAL EDUCATION AND HEALTH FOUNDATION 1

F.1 - GROSS/FINE MOTOR AND SENSORY DEVELOPMENT

Locomotor and Non-locomotor Skills

Young children begin to develop fundamental movements and basic body management competence. They observe, practice, demonstrate, and compare fundamental movements while learning to control their bodies in relation to other individuals and independent objects.

Young children are learning when they:

- F.1.1 Perform locomotor and non-locomotor skills at a basic level (e.g., marching, walking, running, hopping, kicking, crawling, jumping forward with feet together, sliding, stretching, climbing, and walking in a line one behind the other).
- F.1.2 Perform stability skills alone and/or with a partner. (e.g., transferring weight so as to rock, roll, stand on one foot for six seconds and walk up and down steps with alternating feet, tumbling skill of somersaults and log rolls, and walking on a balance beam forward and backward).
- F.1.3 Manipulate objects by throwing, catching large balls with two hands, striking, swinging, and pulling at a basic level. (e.g., throws an object at a target with an overhand motion and trunk rotation, throws something upward and catches it, and jumps over a stationary object).
- F.1.4 Perform basic rhythmical skills alone and/or with a partner. (e.g., the child marches and dances to music or rhythmical sounds in free form or with simple adult directions).

A child can be supported by an adult who:

- Encourages the child to walk, run, hop, and jump on the lines of a sidewalk or drawn lines on a hard surface.
- Makes up motions of clapping, stomping, marching to accompany nursery rhymes or other rhyming verses/chants and music.
- Provides materials and equipment for encouraging body movements (e.g., bean bags, balloon and a stick or empty paper towel roll for hitting the balloon, a wagon and/or doll stroller to push or pull).
- Provides opportunities to climb, hop on one or two feet, lie on a skateboard and push with one's hands, or jump in leaves.
- Provides physical activities that stimulate the inner ear (e.g., rocking, swinging, rolling, spinning, or jumping).
- Provides physical activities in which only one side of the body is used at a time (e.g., hopping).
- Provides activities that promote crossing the midline of the body (e.g., moving limbs and eyes across the middle of the body from right to left or left to right to perform a task).
- Encourages the child's participation in art activities that utilize pincer grasp of thumb/forefinger (e.g., gluing small pieces of paper, peeling/sticking stickers, picking up small objects with fingers or tweezers).
- Provides activities that strengthen hand grasp (e.g., squeezing clay and play dough, squeezing water out of sponges, using a hand held hole punch to punch holes in paper of various thickness).

How it looks in everyday activities:

Scarf Dancing

Mrs. Madison places a large box on the floor and calls her class over to the circle time area. “Today we have a surprise. It is inside this box,” she says with a smile. “Who would like to guess what is in the box?” Carmindy raises her hand and says, “Is it something to eat?” “No, not something to eat,” answers Mrs. Madison. The other children take turns guessing. Mrs. Madison gives them some clues as they go along. She writes the guesses on the board to help everyone remember what has already been guessed.

Finally, Mrs. Madison opens the box and the children are excited to see many colored and textured scarves. Each child is able to choose a scarf and there are still some left over. Mrs. Madison explains that they will use the scarves to dance. She shows them how to move with the scarves floating up and down, around, between legs, and behind backs. Carmindy and her friend Tessa, who uses a wheelchair, try to toss the scarves back and forth between them. They giggle when Carmindy misses the scarf and has to chase it down.

Mrs. Madison puts on a CD that she has prepared with several different kinds of music: country, jazz, and classical. As the music plays, Mrs. Madison asks the children to describe it, “Does the music sound happy? Is it slow or fast?” she asks them. They match their movements to the different music.

Development of a skill in one area is related to and influences other developmental areas:

Adaptation:

- Can substitute plastic grocery sacks for scarves.
- Think about ways to involve children with special needs.
- Can be an inside or outside activity.

Extension:

- While moving with scarves, run, hop, jump, skip, or slide feet.

Social/Emotional:

- Pretends with objects.
- Follows simple directions.

Cognitive:

- Asks and responds to questions.
- Shows curiosity.
- Finds more than one solution to a problem.
- Uses creativity.
- Demonstrates awareness of cause and effect relationships.

Physical:

- Coordinates eye-hand movements.
- Discriminates differences in texture.
- Builds strength, flexibility, coordination in hands and fingers.
- Uses large muscles (gross motor skills).

Self-help:

- Chooses scarf.
- Moves without adult assistance.

Communication/Literacy:

- Repeats simple directions.
- Uses words to describe motions, needs, and how music makes them feel.
- Talks with friends.

PHYSICAL EDUCATION AND HEALTH FOUNDATION 2

F.2 - APPLICATION OF MOVEMENT CONCEPTS AND PRINCIPLES TO THE LEARNING AND DEVELOPMENT OF MOTOR SKILLS

Identifying Movement Concepts and Applying to Motor Skills

Young children begin to develop movement vocabulary and to use terminology accurately. The children apply movement concepts to motor skills by responding appropriately to direction (front/back, side/side, left/right, personal and general space, effort and force (hard/soft), and speed and flow (fast/slow).

Young children are learning when they:

- F.2.1 Identify and use a variety of spatial relationships with objects (e.g., the child will move self and/or an object over, under, beside, and through as directed by an adult).
- F.2.2 Apply movement concepts to specific movement situations (e.g., bend knees to soften the landing and avoid obstacles in the path).
- F.2.3 Follow rules for simple games and activities.
- F.2.4 Integrate a variety of educational concepts in games and rhythmic/fitness activities (e.g., child moves like a lion and roars as he/she moves).
- F.2.5 Identify and solve problems through active explorations.

A child can be supported by an adult who:

- Provides activities that assist the child in learning to follow simple rules and successfully participating in the group by listening to directions and waiting for a turn.
- Provides opportunities for the child to jump off of and over things and/or equipment.
- Involves the child in a variety of games using a soft ball.
- Supports the child's rhythm and movement experiences by providing pots, pans, bowls, and kitchen utensils as musical instruments.
- Provides materials and objects of various textures (e.g., variety of balls, pudding, shaving cream, painting with feet).
- Provides scissor activities to build hand coordination/control by beginning with the use of tongs to pick things up, moving to unstructured snipping to familiarize the child with the motion of opening/closing scissors without the pressure of making something, progressing to cutting within a track, and finally cutting on a line and stopping at a marked point.
- Provides activities that promote finger isolation and moving fingers individually (e.g., songs, finger-plays, an old typewriter, piano keyboard).
- Encourages different body positions when playing board games or while sitting during story or group times.

How it looks in everyday activities:

Follow the Leader

Mr. Adams and his 3 and 4 year old class are enjoying a beautiful fall day in the play area. He shouts to the children, "Follow the leader," a favorite game. Mr. Adams gives the directions for what to do next in a clear voice. He uses lots of direction words, such as "Let's go under the branches" and "Jump up over this rock." The boys and girls follow Mr. Adams, hopping three times on the hopscotch board, picking up and throwing leaves in the air, and swaying their bodies left and right. There is lots of laughter as the boys and girls have to think and move fast to keep up with their energetic teacher.

"New leader" Mr. Adams shouts and points to Keith. Keith turns to the front of the line to take his turn. He leads the group around the play area efficiently. Mr. Adams assists Kimbra, who has some vision impairment, with some of the actions and through some of the areas. After his turn, Keith chooses the next leader.

Development of a skill in one area is related to and influences other developmental areas:

Social/Emotional:

- Maintains acceptable personal boundaries.
- Takes turns.

Cognitive:

- Follows directions/verbal.
- Counts a number of objects.
- Asks and responds to questions and statements.
- Uses creativity and imagination.

Physical:

- Imitates body movements.
- Tolerates textures.
- Initiates body movements.

Self-help:

- Completes activities independently.

Communication/Literacy:

- Understands verbal directions.
- Verbalizes directions to others.

PHYSICAL EDUCATION AND HEALTH FOUNDATION 3

F.3 - ENJOYMENT OF MOTOR AND SENSORY EXPERIENCES

Exhibiting Self-Confidence

Young children seek out and enjoy challenging physical activities that support their growth in self-expression while encouraging and supporting social interactions with others.

Young children are learning when they:

- F.3.1 Exhibit self-confidence while participating in movement activities.
- F.3.2 Talk about enjoying movement activities.
- F.3.3 Express both positive and negative feelings about participating in physical activities.
- F.3.4 Participate in a variety of gross/fine motor and sensory activities.
- F.3.5 Attempt novel gross/fine motor and sensory activities (e.g., running, hopping, jumping, marching, throwing, catching, swinging).
- F.3.6 Demonstrate a determination to develop skills through repetitive practice.

A child can be supported by an adult who:

- Provides the child with age-appropriate gross/fine motor and sensory activities that are fun, yet challenging.
- Talks with the child about feelings while participating in gross/fine motor and sensory activities.
- Encourages the child to act out various roles (e.g., people, animal movements) as a means of self-expression.
- Provides positive feedback when the child tries a novel gross/fine motor and/or sensory activity.
- Provides positive feedback as the child continues to attempt an activity that may not yet be easy.
- Incorporates various motor/sensory experiences while transitioning from one activity to another or from one place to another.

How it looks in everyday activities:

A Backyard Obstacle Course

Today Mrs. Stewart's class is going on a field trip to a local gymnastics program. The coach at the gymnastics center, Beth, has set up an obstacle course for the children to move through. There is a tunnel, some foam pyramids and blocks, bars, steps, mats with hand and foot prints, hula hoops, and many other things to try out.

Beth tells the children how to be safe at the gym. She shows them how to do the activity at each station. As she talks, Beth notices that one child is wearing a cast. She says, "Did you break your arm?" Ciera says that she fell when riding her bike, and that she will need to wear the cast a few more weeks. "It itches," she says making a funny face. Danny says, "I can help Ciera do some of the stations." Beth says he can help and that she will watch as well.

Ciera, Danny, and the other students start going through the course. Beth and Mrs. Stewart stay close, ready to provide any needed support for safety. Ciera is able to go through the tunnel, taking only a little more time than the others. When it is time to do a cartwheel, Ciera watches Danny, but doesn't think she can do it. Beth says she can skip or gallop instead, and Ciera does. "Maybe I can try the cartwheel when I get my cast off," Ciera says. "I'll bet you do a good one," Beth agrees.

Development of a skill in one area is related to and influences other developmental areas:

Social/Emotional:

- Demonstrates confidence in one's growing abilities.
- Demonstrates increasing independence.
- Demonstrates trust in adults.
- Understands and respects differences.
- Helps others in need.
- Works cooperatively.

Cognitive:

- Finds more than one solution to a problem.
- Uses planning skills.
- Recalls a sequence of events.
- Recognizes patterns and repeats them.
- Uses creativity and imagination.

Physical:

- Learns skills that require automatic body awareness.
- Uses fine and gross motor skills.
- Coordinates eye/hand movements.
- Uses body with increasing control.

Self-help:

- Completes task with minimal or no adult assistance.
- Finds own work space.

Communication/Literacy:

- Talks with other children/adults during activity.
- Uses words to describe events and feelings.
- Repeats/follows simple directions.

PHYSICAL EDUCATION AND HEALTH FOUNDATION 4

F.1 - RESPONSIBLE PERSONAL HEALTH AND SAFETY PRACTICES

Developing an Awareness of and Respect for a Healthy Lifestyle

While participating in physical activities, young children are beginning to form an awareness of health and safety practices that support the growth of a healthy lifestyle. Also through activities and experiences, they are guided and encouraged by the adult to develop greater interdependence for personal care and safety.

Young children are learning when they:

- F.4.1 Participate actively in games, outdoor play, and other forms of exercise that enhance physical fitness.
- F.4.2 Show a growing independence in hygiene, nutrition, and personal care when eating, dressing, washing hands, brushing teeth, and toileting.
- F.4.3 Follow basic safety rules (e.g., fire and traffic/pedestrian safety).
- F.4.4 Avoid potentially harmful objects, substances, and activities.

A child can be supported by an adult who:

- Provides an appropriate amount of time for children to participate in indoor and outdoor play.
- Provides instruction on proper hand washing and drying.
- Supports the child's effort in toileting, brushing of teeth, and manipulating clothing.
- Provides a variety of snacks and meals as well as instruction in healthy eating habits.
- Encourages the child to be responsible for personal belongings (e.g., hanging up jackets, back packs).
- Uses teachable moments to instruct the child about pedestrian/traffic safety (e.g., drop-off/pick-up times, while walking, field trips, use of proper restraints).
- Takes the responsibility of keeping harmful objects and substances out of the reach of the child.
- Teaches the child about harmful objects and substances.
- Provides opportunities to participate in community health and safety programs (e.g., dentist, doctor, veterinarian, fire fighter, police officer).

How it looks in everyday activities:

Trip to the Grocery Store

Mrs. Scott's preschool class is going to a grocery store three blocks away. Dong-Moon has emerging use of both expressive (spoken) and receptive (hearing) English language skills. Dong-Moon's mother and father plan to go along with the group to help support their son's learning. They were pleased when Mrs. Scott asked if they would mind helping the rest of the class learn a few words in Korean.

As they get ready for the trip, everyone uses the restroom, independently using the toilet and washing and drying hands. The children take their jackets, hat, and gloves from the cubbies and put them on. Some children are able to zip and button on their own and others get help from Mrs. Scott.

As they walk down the street, Mrs. Scott reminds everyone of the safety rules that they practiced before the trip. The children recall how to stay on the sidewalk and how to follow the street signs that tell when to walk and when to stop. Zoe says, "The green light says when it is safe to walk" and Mrs. Scott adds, "But we still need to check for cars."

At the grocery, the children hear about different products, such as foods, medicine, and other pharmacy supplies, and products for cleaning. They talk about making healthy food choices, selecting from different kinds of foods, such as meats, fruits, vegetables, and grain products. They discuss how to stay safe around cleaning supplies and look at stickers with Mr. Yuck on them reminding them that this product is not for eating or drinking. Zoe says, "My Mommy keeps her cleaning stuff on a high shelf." Mrs. Scott notes that this is a great idea. Dong-Moon's parents notice that he seems to understand quite a bit of what is said, and that he is having fun with the other children. They decide to stay back but remain available in case he needs help with some of the words. Everyone chooses a piece of fruit to eat on the walk back to school. Dong-Moon goes around to all the children, telling them the Korean name for the fruit they chose. The children enjoy learning these new words.

Development of a skill in one area is related to and influences other developmental areas:

Social/Emotional:

- Takes turns.
- Shares.
- Help each other.
- Identifies oneself as a member of a group.
- Understands and respects differences.

Cognitive:

- Asks and responds to questions.
- Demonstrates an interest in exploring.
- Classifies objects by similarities and differences.
- Makes comparisons.
- Follows simple directions.
- Identifies names of objects and events.
- Recalls a sequence of events.
- Demonstrates an interest in writing.

Physical:

- Moves from one place to another (gross motor skills).
- Demonstrates visual discrimination skills.
- Discriminates by taste and smell.
- Discriminates differences in texture.

Self-help:

- Prepares for the field trip (personal care).
- Chooses a piece of fruit for snack.

Communication/Literacy:

- Talks while walking and during the time at the grocery.
- Watches for print inside and outside.
- 'Reads' signs, boxes, containers.

PHYSICAL EDUCATION AND HEALTH FOUNDATION 5

F.5 - RESPECT FOR DIFFERENCES

Using Positive Interpersonal Skills

Young children begin to demonstrate an understanding and respect for differences among people in physical activity settings. Positive interpersonal skills such as cooperation, sharing, and courtesy toward others serve as a foundation for understanding and respecting differences.

Young children are learning when they:

- F.5.1 Take turns during physical activities.
- F.5.2 Help others during physical activities.
- F.5.3 Work together as a team toward a common goal.
- F.5.4 Play cooperatively with others during physical activities.
- F.5.5 Treat others with respect during physical activities.
- F.5.6 Resolve conflicts in socially accepted ways during physical activities.

A child can be supported by an adult who:

- Provides opportunities for the child to practice taking turns during physical activities.
- Provides opportunities for the child to serve as a peer buddy for another child during physical activities.
- Provides opportunities for the child to work with others toward a common goal.
- Introduces the child to the cultures of others through customs, dances, and rituals.
- Provides opportunities for the child to simulate various disabilities (e.g., walking on a line on the floor, wearing shop goggles that are scratched/covered to simulate a visual impairment).
- Talks with the child about differences in abilities (e.g., some children more easily jump, some more easily hop).

How it looks in everyday activities:

Rolling the Balls

The ten children in Ms. Woods' preschool love active play and especially ball play. This is great for Ms. Woods who, herself, enjoys the outdoors and sports. "Today boys and girls we will be rolling these balls back and forth. Everyone needs to get a partner," Ms. Woods tells the children.

Ricky and Max decide to be partners, since they are best friends. Max uses a wheelchair for mobility and Ricky does not. Ricky asks Ms. Woods to help Max get out of his wheelchair and in position for the game. Ms. Woods helps Max get into a position that supports his back and keeps his hands free for the game. Max knows what positions work best for him, and he is soon ready to play the game. The boys sit close together with their feet touching so that the ball stays in a confined space that is within Max's reach. They roll the ball back and forth shrieking with delight.

The OT, Sandy, stops by and sees the activity. From her bag, Sandy pulls a ball that is a little heavier and has some texture. She gives the ball to Max and Ricky and suggests that they try it instead of the one they are using. "This ball will help Max get a little stronger in his arms," Sandy tells Ms. Woods. Ms. Woods looks at the new ball and says, "Because it feels different, it might also be a good ball for a student with limited vision," she says. Sandy adds, "That is right. Would you like to borrow it for a while?" Ms. Woods agrees and the ball game resumes.

Development of a skill in one area is related to and influences other developmental areas:

Social/Emotional:

- Interacts with others.
- Identifies oneself as a member of a group.
- Demonstrates interest and participates in activity.
- Understands and respects differences.
- Works cooperatively.

Cognitive:

- Uses planning skills.
- Demonstrates an awareness of space.
- Follows simple directions.
- Persists in tasks.
- Finds more than one solution to a problem.
- Makes comparisons.

Physical:

- Uses gross motor skills with confidence.
- Rolls an object in the intended direction.
- Demonstrates visual discrimination skills.
- Discriminates differences in weight and texture.
- Coordinates eye-hand movements.

Self-help:

- Rolls the ball without adult assistance.
- Retrieves the ball when necessary.

Communication/Literacy:

- Follows simple directions.
- Uses words to describe activity/feelings.
- Conversations during the activity.

RESOURCES AND REFERENCES

Appropriate practices in movement programs for young children ages 3-5. (2000). Council on Physical Education for Children (COPEC). Reston, VA: National Association for Sport and Physical Education.

Block, B. A. (2001). Literacy through movement: An organizational approach. *Journal of Physical Education, Recreation, and Dance*, 72(1), 39-48.

Bredenkamp, S. & Copple, C. (Eds.) (1997). *Developmentally appropriate practice in early childhood programs*. Washington, DC: NAEYC

Bredenkamp, S. & Rosegrant, T. (Eds.) (1995). *Reaching potentials: Transforming early childhood curriculum and assessment*. Volume(2). Washington, DC: NAEYC.

Carlyle, S. (1986). *Move to learn: Physical activities for young children*. Norfolk, VA: Bleacher Street Publishing Company.

Dowell, R. (1997). *Busy being me: Concepts in motion*. Terre Haute, IN: Polyanna Productions.

Dowell, R. (1988). *Busy being me: Fitness, fun and fundamentals*. Terre Haute, IN: Polyanna Productions.

Dowell, R. (1987). *Move over Mother Goose: Finger plays, action verses, and funny rhymes*. Terre Haute, IN: Polyanna Productions.

Dowell, R. (1995). *Mother Ruth's rhymes: For fun reinforcement of concepts across the curriculum*. Terre Haute, IN: Polyanna Productions.

Feldman, J. (1995). *Transition time: Let's do something different*. Beltsville, Maryland: Gryphon House.

Garcia, C. (1994) Motivating fundamental motor skills learning in preschool children. *Journal of Sport and Exercise Psychology*, 16(Suppl.94), S55.

Henderson, K. Glancy, M. & Little, S. (1999). Putting fun into physical activity. *Journal of Physical Education, Recreation, and Dance*, 70(8), 43-45, 49.

Miller, S. (1988). *Games, giggles, and giant steps*. Cleveland, OH: Instructor Books.

Tashjian, V. A. (1995). *Juba this and juba that*. Canada: Little Brown and Company Limited.

MUSIC
THREE TO FIVE

MUSIC
THREE TO FIVE

MUSIC
THREE TO FIVE

FOUNDATIONS FOR MUSIC

Music is natural, spontaneous, and fun for young children. Music moves children emotionally and physically just as with adults. It helps set a mood. Singing and chanting help children make routine activities and transitions smoother and more enjoyable. Brain research tells us that intuitive aptitude for music stabilizes at about age 9. The early childhood years are critical to the development of the child's potential for understanding and producing music. Music is an important part of an early childhood curriculum because of its multiple benefits: calming, stimulating, easing transitions, inviting movement, and serving as a learning tool. Music fosters child development. Music may be used to help children think divergently or creatively. There are many opportunities for music to interact with other curricular areas and to provide practice for social, language, cognitive, and physical development. The attention span of children can be lengthened through good listening experiences. Music play with songs and instruments in early childhood settings can lead young children to deeply satisfying experiences for learning and communication.



KEY FINDINGS

- ♦ **Musical experiences offer children alternative modes of symbolic thinking and expression.**
[Mitchell, A. and David, J., (Eds.), 1992; Trister Dodge, D. and Colker, L.J., 1999]
- ♦ **Music is “the universal language.” Through music, children learn respect for other cultures. Music can help children broaden their understanding of each other.**
[Mitchell, A. and David, J. (Eds.), 1992; Palmer, Hap, 2001]
- ♦ **Music is an enjoyable art form that aids self-expression.**
[Taylor, B., 1991; Trister Dodge, D. and Colker, L.J., 1999; Mitchel, A. and David, J., (Eds.), 1992]
- ♦ **The early childhood years are critical to the development of a child’s potential for comprehending and producing music.**
[Seefeldt, C, (Ed.), 1999]
- ♦ **Music is important to socialization. It is one of the highest forms of human group interaction. Music has the power to influence feelings and emotions.**
[Mitchell, A. and David, J. (Eds.), 1992; McDonald, D.T. and Simons, G.M., 1989]
- ♦ **Music is an early form of communication of emotions, experiences, or ideas. Children think with their bodies long before they think with words. Music is a comfortable way for children to express themselves.**
[Trister Dodge, D. and Colker, L.J., 1999; Taylor, B., 1991]

MUSIC FOUNDATION 1

F.1 - MUSIC APPRECIATION

Children Show Enjoyment of Music Through Facial Expressions, Vocalizations, and Various Movements

Music naturally delights children. Young children are comfortable with music and movement. Music activities are fun for children and also benefit their development. Music brings a new dimension of beauty into their lives. As children grow in their appreciation of music and movement, they acquire a gift that will bring them pleasure throughout life.

Young children are learning when they:

- F.1.1 Smile or laugh when music is played.
- F.1.2 Verbally express enjoyment.
- F.1.3 Sing along to familiar songs.
- F.1.4 Request certain songs/finger plays, etc.
- F.1.5 Clap hands in glee/begin to clap in rhythm.
- F.1.6 Dance/sway/tap toes/jump/hop to music alone or with others.
- F.1.7 Respond positively to transitions from desired to less desired activity when paired with music.

A child can be supported by an adult who:

- Listens to children and includes their ideas and interests in planning the curriculum.
- Provides opportunities for children to experience a variety of music media (e.g., singing, finger plays, instruments).
- Uses a variety of music (e.g., classical, jazz, children's music, top 40) during music time and various times of the day.
- Makes music an integral part of the day.
- Delights in music with young children.
- Plays a supportive role as young children experiment and discover music.
- Recognizes the individual differences reflected in each child's musical preferences.
- Exercises to music.

How it looks in everyday activities:

Music in Everyday Activities

Mr. Tim's class is actively engaged in a variety of typical preschool activities. Some children in the housekeeping center are acting out a family preparing for dinner. Boys and girls are building in the block area, and two children are at the water table filled with rice and corn along with the usual utensils found on the table (e.g., containers, lids, spoons, funnels, sieves). Nina finishes her pretend meal and uses the bottom of the play skillet and a spoon to call the family to the table. Mr. Tim becomes aware that she is banging loudly but rhythmically. He comments on her pattern and volume and asks if she can mimic a pattern he creates using different utensils. Her friend in housekeeping immediately picks up the bell on Mr. Tim's desk and rings it in the same rhythmic pattern. The children in the block corner notice the activity and join in the group tapping their blocks together. Sally presses a button on her communication device to produce beeping sounds that keep time with the rhythm. Mr. Tim moves to the water table filled with rice and corn and asks the children to figure out how they might use those items on the table to create the same rhythmic pattern that is happening in other areas. The children fill their containers with the rice and corn and use them as shakers to join in the music.

Later in the morning, Mr. Tim invites the children to bring their self-discovered instruments to the circle and directs the discussion using words like loud and soft, fast and slow, high and low, pleasant and unpleasant. At the end of the discussion, he comments and praises them on their new-found instruments and the way they created music. He encourages the children to put their instruments away appropriately in each area.

Development of a skill in one area is related to and influences other developmental areas:

Social/Emotional:

- Shows preferences for different sounds.
- Creates and shares sounds.
- Cooperates with friends.

Cognitive:

- Creates rhythmic patterns.
- Produces both repetition and creative deviations of sound and sound patterns.

Physical:

- Uses body actions (large and small muscle movements) to make sounds.
- Uses fine motor skills to pick up rice and corn.

Self-help:

- Cleans up materials.

Communication/Literacy:

- Uses contrasting terms such as loud and soft, high and low, fast and slow, and pleasant and unpleasant to the ears.

MUSIC FOUNDATION 2

F.2 - PARTICIPATION/EXPLORATION/PRODUCTION

Children Produce Vocal/Instrumental Music and Rhythmic Movements Spontaneously and In Imitation

Throughout the early childhood years, children are learning to do new things with their bodies. Young children readily sing and perform to catchy music or commercials on the radio or television. Young children enjoy activities that have rhythm and repetition. They like to imitate actions such as playing the piano or guitar or singing.

Young children are learning when they:

- F.2.1 Hum or sing familiar/original lullaby while rocking a doll.
- F.2.2 Produce rhythmic patterns to familiar songs (e.g., *Jingle Bells*).
- F.2.3 Create own alternate pattern/action for a finger play to a familiar song.
- F.2.4 Spontaneously explore sounds produced by striking a variety of materials (e.g., pots and pans, wooden spoons, measuring cups, wooden blocks).
- F.2.5 Hum or sing along to tune playing on radio, tape/CD player, or television.
- F.2.6 Sing songs from favorite movies or television shows from memory.
- F.2.7 Follow repetitive patterns of movements.
- F.2.8 Use words/concepts learned through music in non-musical activities.

A child can be supported by an adult who:

- Helps the child create music by using his/her own words.
- Plays a supportive role as the child experiments and discovers music.
- Uses familiar songs to help the child solve problems.
- Identifies natural rhythm in the classroom or play area (e.g., clocks, squeaks, drips, bouncing balls, swaying trees).
- Claps rhythmic patterns to names, poems, and nursery rhymes and has child repeat them or do them together.
- Uses body actions to music (e.g., *Head, Shoulders, Knees, and Toes*).

How it looks in everyday activities:

The Music Center

Tom, Madison, and Caesar choose the music center for their free time activity. Mrs. Schmitt has filled the music center with some homemade instruments. There are foil pan tambourines, oatmeal box drums, wooden sandpaper blocks, and rubber band guitars. There are also some simple commercially made instruments, such as bells, a triangle, and recorders.

Each child chooses an instrument to play. Caesar states, "I want to play the drums," and he chooses the oatmeal drum. Madison is a little disappointed but selects a recorder. "Maybe we can trade later," she says to Caesar, who agrees. Tom uses his picture book to show Mrs. Schmitt which instrument he prefers. He chooses the sandpaper blocks, and Mrs. Schmitt helps him place the blocks in the best position to get some sounds from them.

A lively band is formed, and the children play for several minutes. Mrs. Schmitt claps her hands along with the music and encourages the children to continue. After a bit, Mrs. Schmitt notices that Caesar is playing a particular pattern. "Can you two copy the pattern that Caesar is making?" she asks. Madison and Tom listen then copy Caesar's pattern. When the song is over, Tom signs "my turn" and taps out a new pattern with the blocks. The other children follow his lead next. Caesar starts a song to go with Tom's rhythmic pattern.

Development of a skill in one area is related to and influences other developmental areas:

Social/Emotional:

- Shares and cooperates with others.
- Expresses emotions through music.

Cognitive:

- Experiments with a variety of sounds.
- Imitates rhythmic patterns.

Physical:

- Uses gross and fine motor skills.
- Exhibits improved coordination.

Self-help:

- Treats instruments with care using guidelines established by the teacher/adult.

Communication/Literacy:

- Practices non-verbal communication skill of taking turns.

MUSIC FOUNDATION 3

F.3 - ANALYSIS

Children Begin to Differentiate Variations in Tempo, Dynamics, and Types of Sounds Made by Different Classes of Instruments (Percussion, Wind, and String)

Children enjoy real or improvised musical instruments. They like to keep time and hear others make music. They develop creativity and imagination by responding to problems in movement and music. Young children refine their listening skills by noticing changes in tempo or pitch.

Young children are learning when they:

- F.3.1 Play classroom instruments.
- F.3.2 Moderate movements to tempo (fast/slow) and dynamics (loud/soft) of music heard.
- F.3.3 Moderate vocalizations to tempo and dynamics of music.
- F.3.4 Choose real or improvised instruments to play along with instrument heard.
- F.3.5 Distinguish among the sounds of several common instruments.

A child can be supported by an adult who:

- Builds a strong and varied repertoire of rhythms, finger plays, poetry, and movement exercises.
- If not musically inclined, arranges for another person to assist or uses records, tapes, or CDs rather than eliminate music from the daily curriculum. The voice is an important musical instrument, and an ordinary voice is all that is necessary—enthusiasm is what makes the difference.
- Provides experiences that help the child release feelings constructively, whether the feelings are of anger or hostility or joy and excitement.
- Over a period of time, teaches about the three groups of instruments (e.g., woodwinds, percussion, and string).
- Provides props that encourage rhythm and music (e.g., blocks, sticks, coconut shells, shakers, or bells).
- Provides guidance so the child will know what is expected. Can the child play with the new drum, or is it just for the teacher? Do instruments stay in a certain area? Who can operate the record player or tape recorder?

How it looks in everyday activities:

Sound Table

Mrs. Leslie's class likes music and they have been listening to many CDs throughout the year. They sing and like to make music using the variety of homemade instruments that Mrs. Leslie provides. She announces one morning that she is starting a "sound table" that anyone can contribute to. "I have put out some of these little boxes and some buttons, paper clips, and other little objects." She shows them how to put the little objects into the boxes and shake them. Mrs. Leslie says, "Now let's see what else we have in the room that we can use for the sound table."

Emily finds some small beads in the art area, and Jack sees some little blocks in the building area. Tony, a student with a visual impairment says, "There are wood chips and gravel outside we could use!" Mrs. Leslie helped Tony gather the gravel and wood chips he thought of.

Over time, the sound table grew and grew. Mrs. Leslie sometimes added new containers, such as an old metal box or a small coffee can. Parents sent in marbles, rice, beans, and small metal balls. Everyday the students checked the sound table to see what was new. Mrs. Leslie liked seeing how the children became more aware of sound. It was great to see their music become more complex as the children increased their interest in exploring the sound making possibilities of their self-made instruments.

Development of a skill in one area is related to and influences other developmental areas:

Social/Emotional:

- Finds and shares objects for the sound table.
- Works together to create various sounds.

Cognitive:

- Chooses and discriminates sounds made by various objects.

Physical:

- Uses small muscles.
- Uses gross motor skills if the children create a marching band.

Self-help:

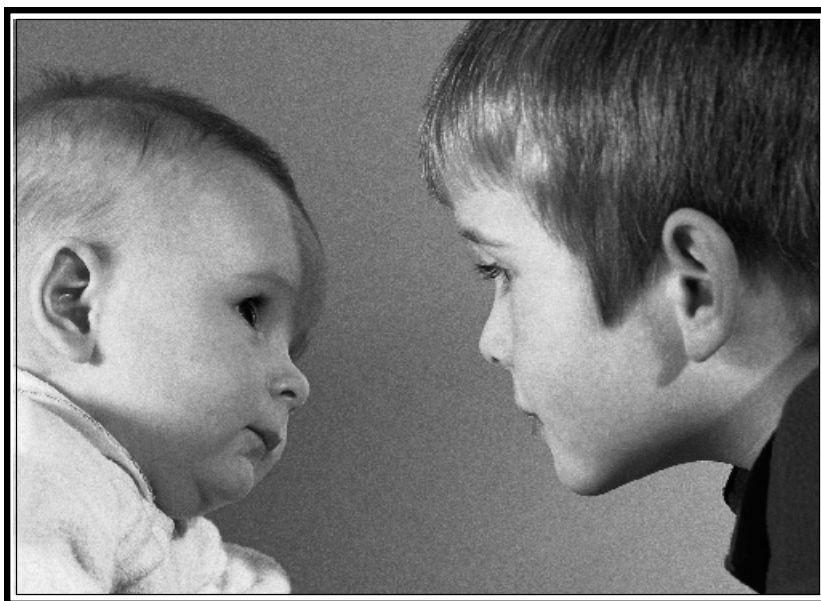
- Finds objects and creates own instrument.

Communication/Literacy:

- Communicates feelings with the instruments created.

RESOURCES AND REFERENCES

- Cromwell, L. & Hebner, D. (1978). *Finger frolics: Fingerplays for young children*. Livonia, MI: Partner Press.
- Feierabend, J.M. (1989). *Music for little people*. New York: Boosey and Hawkes.
- Graham, Terry L. (1984). *Finger play and rhymes for always and sometimes*. Atlanta, GA: Humanics.
- Grayson, M. (1967). *Let's do fingerplays*. Washington, DC: R.B. Luce.
- Mandel, M. & Wood, R. (1978). *Make your own musical instruments*. New York: Sterling Publishing Co.
- Mitchell, A. & David, J. (Eds), (1992). *Explorations with young children: A curriculum guide from bank street college of education*. The Bank Street College of Education, Mt. Raines, MD: Gryphon House.
- Scott, L. B. (1983). *Rhymes for learning time*. Minneapolis, MN: T.S. Denison.
- Weikart, P. (1997). *Movement plus rhymes, songs & singing games*, 2nd Edition. Ypsilanti, MI: High/Scope Press.
- Weikart, P. (2000). *Round the circle key experiences for young children*, 2nd Edition. Ypsilanti, MI: High/Scope Press.



VISUAL ARTS
THREE TO FIVE

VISUAL ARTS
THREE TO FIVE

VISUAL ARTS
THREE TO FIVE

FOUNDATIONS FOR VISUAL ARTS

Young children naturally enjoy art. Art benefits all aspects of a child's development. Creative expression helps children realize they are worthwhile people with good ideas who can do things in different ways. It contributes to helping children better understand their world. Brain research indicates that creativity increases in preschool children until the age of 5, when a sharp decrease begins. Art should be integrated into all preschool curriculum areas. Art materials that are appropriate to the developmental level of the child promote curiosity, verbal and nonverbal expression, reading and math skills, physical development, social-emotional skills, and self-help skills. The adult needs a wholesome, accepting attitude toward the use of creative and artistic materials rather than thinking of art materials as a waste of time or messy. Adults sometimes wonder if coloring books, patterns, and pre-cut models are appropriate art experiences for young children. These materials are not recommended as a means for providing art experiences. These materials are often frustrating to three, four, and five-year old children who do not have the manual dexterity or eye-hand coordination to stay within the lines, to cut along the lines, or to reproduce a picture made by an adult. Children like to draw or make things as they see them. It is recommended that adults rely on activities that allow children to be creative and individualized in their artwork.



KEY FINDINGS

- ♦ **Art enables children to learn many skills, express themselves, appreciate beauty, and have fun all at the same time.**
[Trister Dodge, D. & Colker, L. J., 1999; Epstein, A.S., 2001]
- ♦ **For young children, the process of creating is what's most important, not what they actually create.**
[Trister Dodge, D. & Colker, L. J., 1999]
- ♦ **Working with art materials and uninterrupted time for artistic expression helps benefit all aspects of a child's development. Art enhances other areas of development such as perception, cognition, fine and gross motor skills, language, and social interaction.**
[Taylor, B. 1991; Trister Dodge, D. & Colker, L. J. 1999; Mitchell, A. & David, J., (Eds.) 1992]
- ♦ **Children learn about the world through sensory experiences. Art helps children examine some of the complexities of the real world in small manageable pieces.**
[Taylor, B. 1991; Seefeldt, C., (Ed.) 1999]
- ♦ **If children develop appreciation for aesthetics at a young age, their environment becomes more meaningful.**
[Epstein, A.S., 2001]
- ♦ **The adult plays an important role in planning and providing art experiences for the young child. Visual arts are critical to the development of an integrated, meaningful early childhood curriculum.**
[Taylor, B. 1991; Seefeldt, C., (Ed.) 1999]
- ♦ **Children express how they think, feel, and view the world through their art. Children learn from experiences that allow them to express their ideas and feelings.**
[Taylor, B. 1991; Trister Dodge, D. & Colker, L. J. 1999]

VISUAL ARTS FOUNDATION 1

F.1 - ART APPRECIATION

Begins To Understand and Share Opinions About Artwork and Artistic Experiences (Their Own or Others)

Young children will become aware that the world is richer because of art. They will become aware of different cultures, and that art is a way people express ideas and feelings. Different people have different reactions and opinions about works of art.

Young children are learning when they:

- F.1.1 Imitate different cultures through art.
- F.1.2 Examine art products from different world cultures.
- F.1.3 Reflect on differences and preferences as he/she encounters artwork.
- F.1.4 Describe art work and interpret potential intentions of the artist.
- F.1.5 Express feelings about art work.
- F.1.6 Wonder about or ask questions about works of art.
- F.1.7 Respond in various ways to the creative work of others (e.g., body language, facial expression, or oral language).
- F.1.8 Role play imaginary events and characters in the media.

A child can be supported by an adult who:

- Recognizes the different cultures within the group.
- Expresses a sense of awe and appreciation of art work.
- Values each child's creative efforts.
- Provides art media and materials that are culturally responsive to diversity of families and community.
- Provides artifacts that celebrate human diversity and history.
- Asks open-ended questions.
- Describes what the adult sees.
- Brings reproductions of art into the environment.
- Provides an accepting attitude toward each child's ideas.
- Notices and comments about real and imaginary events and characteristics.
- Expresses feelings about art.
- Imagines or creates a story from artwork.

How it looks in everyday activities:

A Trip to the Art Museum

Mr. Price's pre-K class is planning a field trip to the art museum. He prepares the students by telling them that people express their ideas and feelings about the world through their artwork. Mr. Price helps the children understand that artwork might be a painting, a sculpture, or a textile work. The colors could be vibrant or subdued. The piece of art might look very much like what it represents, or it could look very different. The boys and girls have many ideas and questions as they board the bus for the trip.

At the museum, Mr. Price asks questions to help the children think about the art they are viewing. He shows them an oil painting of flowers and another one of bold stripes and lines. "How do you feel when you look at these pictures" he asks, "the same or different?" The class walks into another room with several statues. Mr. Price invites the children to try to imitate the poses the statues make. Ian tries to hold a pose like the statue he sees of a knight. "I am a warrior!" he shouts.

Back in the classroom, Mr. Price provides paper, paint, brushes, and some modeling clay. "Everyone can make their own piece of art," Mr. Price tells the children. "Think about what you saw at the museum. There were different kinds of painting and sculptures, with lots of different sizes, colors, lines, and shapes. What kind of artwork would you like to make to take home?" The children get started on their projects and Ian says, "I want to make a guy with a sword." Mr. Price helps Ian use the clay to make a model of a knight. "Art is really fun" Ian says, satisfied with his work.

Development of a skill in one area is related to and influences other developmental areas:

Social/Emotional:

- Expresses feelings and experiences pride.
- Shares and cooperates with others.

Cognitive:

- Explores art materials.
- Uses processes and techniques to give form to what has been seen and learned.
- Learns about shape, line, color, through experiences.
- Develops planning skills.

Physical:

- Develops large and small muscle skills and eye-hand coordination.

Self-help:

- Demonstrates care and persistence in artwork.

Communication/Literacy:

- Promotes communication by sharing ideas and feelings.

VISUAL ARTS FOUNDATION 2

F.2 - CREATING ART: PROCESS AND PRODUCT

Expresses Personal Interests, Ideas, and Feelings Through Art

Children express how they feel, think, and view the world through their art. Through art, children can convey what they may not be able to say in words. Young children develop independence, confidence, pride, and self-expression through concrete, hands-on learning in an environment that stimulates creativity through art.

Young children are learning when they:

- F.2.1 Participate freely in dramatic play activities that become more extended and complex.
- F.2.2 Express self in dramatic play through story telling, puppetry, and other language development activities.
- F.2.3 Compare and contrast own creations and those of others.
- F.2.4 Use various art forms such as dance, theater, and visual art as a vehicle for creative expression.
- F.2.5 Select different art media to express emotions or feelings. (e.g., painting with bright colors to match a playful mood)
- F.2.6 Use art media to channel frustration and anger in a socially acceptable way. (e.g., punching and pounding clay)
- F.2.7 Show individuality by actions such as drawing a pumpkin that differs in color and design from the traditional.
- F.2.8 Engage in cooperative pretend play with another child.

A child can be supported by an adult who:

- Provides an accepting attitude toward child's ideas.
- Gives recognition by exhibiting each child's work.
- Uses child's imagination as a motivation for art (e.g., the adult reads a fantasy story, provides props so the child can reenact the story, and provides art materials so child can represent the fantasy story).
- Views art materials as meaningful rather than a waste of time and messy.
- Provides creative experiences that are well planned and executed.
- Demonstrates the ability to represent experiences, thoughts, and ideas using several art forms.
- Uses a variety of art media for self-expression.

How it looks in everyday activities:

Finger Painting

As they left their house one morning, Tamyra was frightened to see a large dog approach. The dog barked loudly and Tamyra felt threatened by him. Her father spoke in an authoritative voice to the dog, saying “Go home.” The dog turned and trotted off, but Tamyra still felt scared.

At school, Tamyra’s teacher, Ms. Austen had planned to do a finger painting day. She knew that finger painting is a great sensory activity, and that it can offer young children an emotional release. Ms. Austen gave each child a piece of paper dampened with a sponge to help it stick to the table and lay smoothly. She let the children choose a color and then put a heaping spoonful of the paint on the page. For Dan, a student with visual impairment, Ms. Austen put a wooden frame around the paper so he would be able to keep his painting on the page. Today Ms. Austen also had some glitter to put in the paint for those who like to feel the gritty texture. Dan said, “I like the feel of that glitter, Ms. Austen. Can you put some on my paper?” Ms. Austen said “sure” and then talked with the children about the different ways to use their fingers, fists, knuckles, palms, and even nails to make interesting patterns in the paint.

Tamyra was still a little shaken from her experience with the dog. She had stopped crying but was quieter than usual and stayed near Ms. Austen. Tamyra’s father had explained what happened so Ms. Austen would be able to give Tamyra some support during the day. She touched the paint carefully and moved it around her paper. Tamyra made a dog’s face on her paper. Ms. Austen saw that the dog had big teeth. Tamyra next made a circular line around the dog’s neck and some vertical lines all around the dog. Finally she drew two figures next to the vertical lines. Ms. Austen asked, “Would you like to tell me about your picture?” Tamyra replied, “The dog has a collar and a fence to keep him in so he can’t get me. This is me and my dad is going to tell the dog to be good.” “I like your picture,” Ms. Austen said. “Me too,” Tamyra said, and then added, “Can I draw a different one? I want to make a tree now.”

Development of a skill in one area is related to and influences other developmental areas:

Social/Emotional:

- Expresses feelings in socially acceptable ways.

Cognitive:

- Chooses raw materials for project..

Physical:

- Develops fine and gross motor muscles through self-expression.

Self-help:

- Practices limits or guidelines established by the teacher.

Communication/Literacy:

- Promotes verbal and non-verbal communication by sharing ideas and feelings.

VISUAL ARTS FOUNDATION 2

F.2 - CREATING ART: PROCESS AND PRODUCT (con't.)

Uses Symbols, Elements Such As Shape, Line, Color, and Texture and Principles Such As Repetition In Art Experiences

The ability to use symbols to make one thing stand for another is an important milestone in cognitive development. Art enhances children's ability to interpret symbols. Working with art materials offers children opportunities to learn about color, shape, design, and texture. As children draw, paint, and make collages they experiment with color, line, shape, and size.

Young children are learning when they:

- F.2.9 Use different colors, surface textures, and shapes to create form and meaning.
- F.2.10 Use objects as symbols for other things. (e.g., a scarf to represent bird wings or a box to represent a car)
- F.2.11 Pretend through role-playing.
- F.2.12 Progress in ability to create drawings, models, and other art creations that are more detailed, creative, or realistic.
- F.2.13 Decide which lines should be long or short, wavy or straight, thick or thin, and what color and where on the paper.
- F.2.14 Watch an activity before entering into it.
- F.2.15 Enjoy repetition of materials and activities to further explore, manipulate, and exercise the imagination.

A child can be supported by an adult who:

- Does not pressure the child to “make something” to account for time.
- Keeps in mind that growth is uneven and that advances in physical growth and a child's knowledge of the body can affect artistic expression.
- Recognizes variations in children's physical, emotional, and intellectual development, and uses art materials and plans experiences accordingly.
- Serves as a facilitator, making materials available in a setting where the child can work undisturbed and motivate the child to experiment and discover.
- Talks about how the work is done and leaves it to the child to talk about what it stands for and what it means to the child. The adult comments on lines, shapes, colors, patterns, textures, how they are repeated, and how they are arranged.
- Offers the materials regularly over the year. One exposure to materials is not enough. (Children continually presented with new media are never able to develop techniques necessary to use the materials to create art.)

How it looks in everyday activities:

Creation of designs

The children in Ms. Terry's home child care program looked glumly outside at the heavy rain, feeling that it would never end. Josh said, "Let's watch a movie." Ms. Terry said, "I have a different idea. We can use all of this scrap paper and make collages." "What's a collage?" Lauren wondered. "It's when you put a whole bunch of pieces of paper together to make something," Josh said.

Ms. Terry showed the children that they could paste the paper they chose into the lids of some old shoe boxes. She also had some buttons, feathers, ribbons, and other decorative materials that they could use in their artwork. She helped them to use the right amount of glue on each piece so that the collage did not get too wet. Some of the children liked to tear the paper into smaller pieces and some used a scissors. Tasha, who has some developmental delays, needed help to stay on task. Ms. Terry helped her make choices and glue the materials.

Lauren found many pink and red pieces of paper and several pieces of red ribbon. She alternated the pink and red, making a nice pattern in the lid. Josh did not plan his collage but added the pieces that he liked as he found them. He was surprised when he suddenly noticed that his collage looked like a truck. Ms. Terry asked Tasha to tell about her collage and she signed "dog." She pointed to different parts of the collage to show the dog's head and tail. Ms. Terry hugged Tasha and said, "I like your dog collage."

Development of a skill in one area is related to and influences other developmental areas:

Social/Emotional:

- Asserts individuality.

Cognitive:

- Enhances creativity by combining materials and textures in a unique way.
- Explores objects and materials independently.
- Experiments with line, shape, color, and size.

Physical:

- Refines small muscle movements.

Self-help:

- Helps with the clean-up of sorting the various materials into appropriate storage containers and washing glue brushes in warm water.

Communication/Literacy:

- Talks about work.

VISUAL ARTS FOUNDATION 2

F.2 - CREATING ART: PROCESS AND PRODUCT (con't.)

Uses Different Art Media and Materials In a Variety Of Ways For Creative Expression, Exploration, and Sensory Experience

The critical component of creative art is the process rather than the end result or product. Children learn from experiences that allow them to express their ideas and feelings. With the emphasis on academic achievement, parents and teachers can become too product or time conscious. The art process benefits all aspects of development. Children learn many skills, express themselves, appreciate beauty, and have fun through art.

Young children are learning when they:

- F.2.16 Demonstrate increasing skill in using different art materials. (e.g., paper, paint, clay, scraps, buttons)
- F.2.17 With various media, use shapes, lines and color.
- F.2.18 Develop growing ability to plan, work independently, and demonstrate care and persistence in a variety of art projects.
- F.2.19 Use a variety of materials (e.g., crayons, paint, clay, markers) to create original work.

A child can be supported by an adult who:

- Recognizes that a child's representation of something may not be entirely realistic. It is important to wait for the child to identify the figure or ask if the child wants to say something about the picture rather than asking "what is it?"
- Provides basic art supplies that include (1) painting materials, (2) drawing and pasting materials, and (3) sculpting and molding materials.
- Supplies storage and an attractive, neat work area. Shelves should be accessible and contain separately arranged and labeled places for clay, collage, painting and drawing materials, and different kinds of paper.
- Arranges time and space. Children need uninterrupted time to investigate and experience art in their own way. They also need space in which to move.
- Provides art experiences that consist of set-up, work time, and clean-up.

How it looks in everyday activities:

Handprinting

The children in Mrs. Brown's early care and education program made hand prints one day. Mrs. Brown prepared a washable work surface with two colors of finger-paints, a large piece of solid colored paper tacked to the wall, and a bucket of warm water nearby for washing hands.

Mrs. Brown let each child squeeze a blob of paint onto the table. "Put your fingers and hands in the paint. How does it feel and smell? Move the paint all around," she told them. Because Sarah has some limited mobility, Mrs. Brown gave her some hand over hand assistance with the paint. She let Sarah put her handprint on the big paper first and then tacked the paper to the wall for the others.

As each child made a handprint, Mrs. Brown labeled it with their names. Abdul, who is learning English, held his hands out to compare the size of his hand with that of another smaller student. This started the children talking about the sizes and directions the handprints were made. Some were larger and some were smaller. Some had long fingers, and some had wide palms. Some students put their hands facing right and some left. Next someone noticed that the colors were also different. "Let's count how many red, blue, and green handprints," Mrs. Brown suggested. The children determined there were more red than blue and more blue than green handprints. Sarah signed the different colors and numbers and Abdul said the color and number names in his home language. Mrs. Brown noticed that the children tried to say the new words after him, and that some tried to use sign language to count later that day.

Development of a skill in one area is related to and influences other developmental areas:

Social/Emotional:

- Talks about how everyone cooperated to make the mural.
- Participates in group activity to stimulate curiosity through hands-on experience.

Cognitive:

- Learns concepts of directionality, big and small, colors, more or less.

Physical:

- Enhances motor development.

Self-help:

- Feels independent and committed to the well-being of the child care home community.

Communication/Literacy:

- Responds to the work of others through body language, facial expression, or oral language.

VISUAL ARTS FOUNDATION 3

F.3 - CAREERS AND COMMUNITY

Experiences Art-Related Professionals Through Field Trips, Visiting Artists, and Museums

Young children will become aware of art as a profession. They will become acquainted with local artists, museums and displays, and various professions that involve art such as painters, sculptors, clothing designers, animators, graphic arts designers, etc.

Young children are learning when they:

- F.3.1 Talk about different art professions.
- F.3.2 Mimic art works and forms by various artists.
- F.3.3 Recognize people in the community who are artists.
- F.3.4 Learn to enjoy and respect the art work of others.
- F.3.5 Visit and discuss works of art at various locations.
- F.3.6 Display interest in the artwork of others.

A child can be supported by an adult who:

- Invites various local artists into the classroom.
- Provides opportunities to take field trips (e.g., museums, art shows, displays).
- Reads books that demonstrate various art forms.
- Introduces picture books as pieces of art.
- Encourages the child to talk about art in the community.
- Provides various art mediums so that a child can mimic art forms.
- Encourages respect for art pieces.
- Exposes the child to beautiful and unusual pieces of art.
- Displays the child's art work.

How it looks in everyday activities:

A Practical Use of Lines

The staff of the Lollipops Child Care Program and Preschool was brainstorming ways to get parents more involved in their program. Ms. Peggy had the idea to invite parents to visit the classroom and tell about their jobs. “Kris’s mom, Monica, would be a good visitor. She is a graphic artist,” suggested Mr. Arthur.

Monica agreed to be the first visitor. She brought many samples of her work, including posters, greeting cards, and a book that she illustrated. Monica also showed the children some Websites that she designed. Ms. Peggy had told Monica that the class had been discussing the kinds of lines that are found in artwork. Monica asked the class, “Do you see any examples of different lines in the work that I brought to share?”

Will raised his hand and said, “There are some fat, wavy lines on that poster.” “And some curvy lines that are different colors on that Website we saw,” added Rachelle. Ms. Peggy said, “Remember some of the words that tell how the lines are in relationship to each other?” Natalie raised her hand and said, “Some of the lines are parallel and some are per-per-per, what’s that other word?” “Perpendicular.” finished Ms. Peggy and added, “Very good!”

Monica challenged the children to use some of the lines they saw in their next art project. After she left, Natalie said to Kris, “Your mom is cool. I want to be an artist like her when I grow up.” “Me too,” Kris said, “and a fireman.”

Development of a skill in one area is related to and influences other developmental areas:

Social/Emotional:

- Shares and cooperates.

Cognitive:

- Uses and discriminates between types of lines.

Physical:

- Uses small motor muscles.

Communication/Literacy:

- Communicates ideas verbally to others.

VISUAL ARTS FOUNDATION 3

F.3 - CAREERS AND COMMUNITY (con't.)

Makes Connections Between Art and Other Curriculum Areas

Children will begin to make a connection between art and other subjects such as science, mathematics, language arts, social studies, physical education, and music. Skills and concepts taught in other content areas can be reinforced through art lessons and will make learning more meaningful.

Young children are learning when they:

- F.3.7 Make patterns on their own.
- F.3.8 Identify patterns in their environment.
- F.3.9 Observe and discuss art forms during a nature walk.
- F.3.10 Imitate art forms of illustrators after listening to a story.
- F.3.11 Sort objects by texture, size, or color.
- F.3.12 Measure ingredients for various recipes.
- F.3.13 Use objects in nature to create a collage or art piece.

A child can be supported by an adult who:

- Reads books and discusses them as pieces of art.
- Provides opportunities for the child to observe art in nature.
- Creates an environment where the child can explore the world through sensory experiences.
- Displays art work in the community.
- Provides materials where the child can sort objects on his/her own.
- Provides art experiences in all areas of the curriculum (e.g., math, science, reading, writing, music, movement).
- Encourages appreciation of art.
- Provides opportunities for the child to describe art works through dictation or writing.
- Allows for the child to create patterns using various objects (e.g., beads, sequins, blocks, cubes, buttons).

How it looks in everyday activities:

Integrating art into the curriculum - *Crazy About Crayons*

Everyone was crazy about crayons at the Sunshine Preschool. The staff had decided to use crayons as an integrated theme unit across the classes. The teachers worked together to figure out crayon related themes for art and reading, science, math, music, and social studies. Each teacher took a curriculum area and then they all shared their ideas. For example, the art teacher, Ms. Rowan, found many different kinds of crayons, such as glitter, scented, and glow-in-the dark. She also found a variety of different kinds of materials to color on, such as construction paper, waxed paper, tissue paper, and newspaper. Ms. Rowan invited the other teachers to choose the crayons and paper they would like to use for their students.

Ms. Maggie and Ms. Kelli worked together to find some books about crayons that could be used for reading, science, and social studies. They found some interesting books that told how crayons were made. Ms. Kelli found a recipe for making crayons online, and several groups made the crayons using wax and tempura paints. Marty said, "Can we take our crayons over to the art area?" Ms. Rowan said, "Of course!" and the students got to test out the newly made crayons. While they did, they sang a song about crayons, Give Crayons a Hand.

Development of a skill in one area is related to and influences other developmental areas:

Social/Emotional:

- Talks about how everyone cooperated to make the mural.
- Participates in group activity to stimulate curiosity through hands-on experiences.

Cognitive:

- Learns about colors.
- Creates a work of art using pictures, symbols, or words from another discipline.

Physical:

- Enhances motor development.

Self-help:

- Develops planning skills.

Communication/Literacy:

- Responds to the work of others through body language, facial expression, or oral language.
- Asks and responds to questions.

RESOURCES AND REFERENCES

Epstein, A.S. (2001). Thinking about art: Encouraging art appreciation in early childhood settings. *Young Children* 56 (3): 38-43.

Lasky, L. & Mukerji-Bergeson, R. (1995). *Art: Basic for young children*. Washington, DC: National Association for the Education of Young Children.

Kohl, M. (2000). *The big messy art book but easy to clean up*. Mt. Raines, MD: Gryphon House.

Kohl, M. & Gainer, C. (1996). *Math arts, exploring math through art for 3 to 6 year olds*. Mt. Raines, MD: Gryphon House.

Kohl, M. & Potter, J. (1998). *Global art activities, projects, and inventions from around the world*. Mt. Raines, MD: Gryphon House.

MacDonald, S. (1996). *Squish, sort, paint & build over 200 easy learning center activities*. Mt. Raines, MD: Gryphon House.

Mitchell, A. & David, J. (Eds). (1992). *Explorations with young children: A curriculum guide from bank street college of education*. The Bank Street College of Education. Mt. Raines, MD: Gryphon House.

Seefeldt, C. (1995). Art: A serious work. *Young Children* 50 (3): 39-45.

Taylor, B. (1991). *A child goes forth: A curriculum guide for preschool children*. 7th edition. New York, NY: MacMillian Publishing Company.

Trister Dodge, D. & Colker, L.J. (1999). *The creative curriculum for early childhood*. Washington DC: Teaching Strategies Inc.

